Graduate School

Advancing Research, Scholarship, & Innovation

2008-2009 Bulletin

Graduate Program and Course Catalog

Current as of **November 5, 2008**

UNIVERSITY of WISCONSIN
UWMILWAUKEE

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Admission to the Graduate School

UWM is accredited as a comprehensive doctoral and research campus by the North Central Association of Colleges and Schools. Ranked by the Carnegie Foundation as an extensive doctoral/research university (one of 147 nationally), UWM is also one of two UW System institutions that grants the doctoral degree.

Contact for Information and materials

Graduate Student Services

Room: Mitchell 261
Phone: (414)229-6569
Fax: (414)229-6967
E-mail: gradschool@uwm.edu
Web: www.graduateschool.uwm.edu/

Mail: UWM Graduate Student Services
PO Box 340
Milwaukee, WI 53201-0340

Degree Admission Requirements

Please read the following information *before* you apply at *apply.wisconsin.edu.* You must meet Graduate School and specific program requirements for admission. Please be aware of recommended and required deadlines. We recommend applying at least one year in advance of the term you wish to start.

Graduate School

1. **Degree**: Bachelor's degree.
2. **Grades**: A minimum undergraduate GPA of 2.75. This calculation includes both attempts in your repeated coursework.
3. **Transcripts**: One official transcript (preferably two), sent directly to the Graduate School from each undergraduate and graduate school attended. If you attended UWM as an undergraduate, the Graduate School will obtain transcripts from the Undergraduate Records Office.
4. **English Proficiency**: See the Center for International Education's Graduate Application Requirements later in this section.
5. **Reasons Statement**: An essential part of your application, the Reasons Statement is used to determine the appropriateness of your educational and professional goals and serves as an example of your ability to express yourself in writing. In the statement:
   - Explain your reasons for pursuing graduate study.
   - Describe specific interests and your background in the field.
   - List any relevant skills or training you have acquired.
   - List relevant academic awards or honors you have received.
   - If your program requires recommendations, list the names of those individuals who will write on your behalf.
6. **Fee/s**: a $56 base application fee is required of all applicants, and an additional $40 evaluation fee is required for applicants with college-level work from non-U.S. colleges.
   Note: If you are applying to a doctoral program and already hold a UWM master's degree, you do not need to pay the application fee.

Program Requirements

Contact your specific program representative for additional requirements for your program.

Admission on Probation

If your overall undergraduate grade point average is under 2.75, you may be **considered** for admission on probation by presenting evidence of ability to succeed in graduate-level work. The following conditions must be fulfilled before you will be considered for admission.

Applicants with GPA of 2.50-2.74 must present at least one of the following:

- A grade point average of 3.0 or above during the final 60 semester credits of your baccalaureate degree program.
- Completion of 6 or more credits of program-approved, post-baccalaureate coursework in an academic area directly related to your chosen graduate program. The grades earned must be a "B" or better (B- not acceptable).
- Submission of official score reports from the Graduate Record Examination (GRE), the Graduate Management Admission Test (GMAT), or Miller Analogies Test, that indicate a high probability of success in graduate school. Official is defined as having been sent directly from the testing service to UWM.
- An advanced degree with a cumulative GPA of 3.0 or higher.

Applicants with GPA below 2.50 must present at least TWO of the following conditions:

- A grade point average of 3.0 or above during the final 60 semester credits of your baccalaureate degree program.
- Completion of 9 or more credits of program-approved post-baccalaureate coursework in an academic area directly related to your chosen graduate program. The grades earned must be a "B" or better (B- not acceptable).
- Submission of official score reports from the Graduate Record Examination (GRE), the Graduate Management Admission Test (GMAT), or Miller Analogies Test, that indicate a high probability of success in graduate school. Official is defined as having been sent directly from the testing service to UWM.
- An advanced degree with a cumulative GPA of 3.0 or higher.

Your proposed graduate program unit may have further requirements for consideration of admission on probation and removal of probationary status. If you are admitted, your graduate program representative is responsible for communicating to you the conditions for removal of probation.

Admission with Course Deficiencies

You may not be admitted with more than two course deficiencies, and they must be removed within three enrolled semesters. Deficiencies are monitored by the Graduate School and your graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree. If the deficiencies are not removed within three enrolled semesters, a hold will be placed on your record and you must show sufficient cause for continuation of graduate status.

Senior-Graduate Admission

If you are a UWM student holding senior standing and are within 6 credits of graduation, and meet both the admission (regular status) requirements of the Graduate School and the proposed graduate program unit, you may apply and be considered for one semester's concurrent enrollment in the undergraduate college and in the Graduate School. Your entire program is subject to the regulations and requirements of the Graduate School. You receive graduate credit only if the requirements for the bachelor's degree, including proficiency tests, are completed by the end of the semester of senior-graduate enrollment. You are assessed graduate fees for all coursework taken during the semester of senior-graduate admission.

Apply for Graduate Degree Admission

When to Apply to a Degree Program

The Graduate School recommends that you begin the application process one year before the the semester you plan to start. Please check with your proposed graduate program and the Financial Aid Office to learn their deadlines.

Application Checklist

1. Make sure you satisfy the admission requirements for both the Graduate School AND the program you will be applying for.
2. Submit your online application on time: Application submission dates vary by program. Contact your program for its deadline, and submit the Graduate School application 8-10 weeks earlier.
3. Pay the application fee(s): a $56 base application fee is required of all applicants, and an additional $40 evaluation fee is required for applicants with college-level work from non-U.S. colleges.
4. *Note:* If you are applying to a doctoral program and already hold a UWM master's degree, you do not need to pay the application fee.
5. Send the following to the Graduate School:
   - Transcripts (directly from the institution/s)
   - Reasons Statement
6. Send appropriate required items to your specific program.
7. Watch your mailbox for information on monitoring your application status online.

Apply Online

apply.wisconsin.edu

Retention of Application Materials

The Graduate School will keep your application materials for one year. After one year you will need to apply again and submit all required application materials. All application materials become the property of the Graduate School and cannot be returned to the applicant, forwarded to another institution, or duplicated for any purpose.

Non-Degree Candidate (NDC) Admission

This admission category (also referred to as Graduate Special) allows you to take courses for graduate credit without pursuing a degree. Acceptance as an NDC does not guarantee admission to a graduate degree program.

Some programs have a minimum undergraduate grade point average for NDC admission. In addition, there are limits to the number of NDC credits that can be considered for transfer to a degree.

NDC students are usually not eligible for financial aid. Check with the Financial Aid Office regarding your particular situation. International applicants need to contact the Center for International Education for additional NDC requirements.

NDC application requirements

- Bachelor's degree
- English proficiency
- $15 application processing fee

Transcripts

Check with the program to which you're seeking admission. Most departments do not require transcripts from NDC applicants.

International Applicants

In order for your application to be considered complete, you must submit the following the requirements:

1. Application: We strongly recommend that you fill out an application online at http://apply.wisconsin.edu. By submitting an online application, our office will be able to begin the processing of your application as soon as you submit it. One business day after you have submitted your application, you will receive an e-mail from the university, explaining how to check the status of your application on our PAWS online student information system, www.paws.uwm.edu.

2. Fees: All applications must include the application fee (AF), plus an evaluation fee (EF) for all applicants with education from outside the US. You can send a check or international money order, or pay the fees with a credit card at the same time you submit an online application.

   Master's degree and PhD applicants – Total $96 ($56 AF + $40 EF).

3. Academic Documentation: Original or officially certified copies of all grade reports for all post-secondary studies, as well as original or officially certified copies of all academic diplomas, certificates, and national or other major examination results.

   Official records must be submitted in the native language and must be accompanied by an official English translation.

   Photocopies, scanned or notarized copies are not accepted as official documents.

   Official records should be sent to ISSS Admissions directly from the institution, whenever possible.

4. Reasons for Graduate Study: The Reasons statement is used to determine the appropriateness of UWM's programs to your educational and professional goals and serves as an example of your ability to express yourself in writing. In the statement:
   a. Explain your reasons for pursuing graduate study.
   b. Describe specific interests and your back-ground in the field.
   c. List any relevant skills or training you have acquired.
   d. List relevant academic awards or honors you have received.
   e. If your program requires recommendations, list the names of those individuals who will write on your behalf.

5. Proof of English Language Proficiency: You can meet this requirement in one of the following ways:
   a. Receipt of a baccalaureate or higher degree from UWM, or another approved institution where English is the sole language of instruction. International applicants also must meet the following criteria:
      i. the degree must be earned within two years of your expected enrollment at UWM, and
      ii. the applicant must have attended this institution a minimum of 2 years and must have a "C" (2.00 on a 4.00 scale)
   b. A minimum TOEFL score of 550 PBT, 213 CBT, or 79 iBT. Some graduate departments require a higher TOEFL score. TOEFL scores must be sent directly to the University from ETS. TOEFL scores cannot be more than 2 years old. UWM's school code for TOEFL is 1473. The University will not review your application if you have a TOEFL score less than 500 PBT, 173 CBT, 73 iBT or an IELTS score less than 6.0.
   c. A minimum IELTS score of 6.5 or higher. Graduate departments may require a higher IELTS score; refer to their admissions materials for more information. IELTS scores cannot be more than 2 years old.

6. Program Specific Requirements: Some graduate programs may require additional information. Please contact your intended graduate program directly to inquire about

any additional requirements they may have.

7. Other Requirements: Upon admission, applicants who expect to hold an F-1 or J-1 visa must provide proof of adequate funds to live and study full-time at UWM. Estimated costs of studying at UWM are included in the Proof of Funding Information Form.

Important Dates & Deadlines

Fellowship Applications

Type	Deadline	Date Available
Graduate School Fellowship	January 25, 2008	November 2, 2007
Dissertation Fellowship	January 25, 2008	November 2, 2007
Advanced Opportunity Program	January 25, 2008	November 2, 2007

Graduation Dates and Deadlines

Item	Fall	Spring	Summer
Graduation Application	September 15, 2008	February 9, 2009	June 1, 2009
Thesis or Dissertation Defense	December 8, 2008	May 4, 2009	August 3, 2009
Thesis or Dissertation Submission	December 15, 2008	May 11, 2009	August 10, 2009
Graduation / Degree Conferred*	December 21, 2008	May 17, 2009	August 15, 2009**

** Diplomas mailed approximately 60 days after degree conferral.*

*** No summer ceremony. August graduates may attend the fall commencement.*

Academic Calendar

Fall 2008

Contractual Period	August 18,2008 - Jan 1, 2009
Orientation and Advising	August 25-28, 2008
Instruction Begins	September 2, 2008
Begin Mini-Term I	September 2, 2008
End Mini-term I	October 4, 2008
Begin Mini-term II	October 6, 2008
End Mini-term II	November 8, 2008
Begin Mini-term III	November 10, 2008
Thanksgiving Recess	November 26-30, 2008
End Mini-term III	December 11, 2008
Last Day of Classes	December 11, 2008
Study Day	December 12, 2008
Final Exams	December 13, 15-20, 2008
Graduation	December 21, 2008
Winter Recess	Dec 22, 2008 - Jan 1, 2009

UwinteriM 2009

Instruction Begins	January 5, 2009
Last Day of UWinteriM Classes	January 22, 2009

Spring 2009

Contractual Period	Jan 2, 2009 - May 17, 2009
Orientation and Advising	January 13-16, 2009
Instruction Begins	January 26, 2009
Beg Mini-term I	January 26, 2009
End Mini-term I	February 28, 2009
Begin Mini-term II	March 2, 2009
Spring Recess	March 15-22, 2009
End Mini-term II	April 4, 2009
Begin Mini-term III	April 6, 2009
End Mini-term III	May 7, 2009
Last Day of Classes	May 7, 2009
Study Day	May 8, 2009
Final Exams	May 9, 11-16, 2009
Graduation	May 17, 2009
Steam/Heat Shutdown	May 18-22, 2009

Summer 2009

Three-week (Early) Session	May26 - June 13, 2009
First Four-week (Early) Session	May26 - June 20, 2009
Second Four-week Session	June 22 - July 18, 2009
Third Four-week Session	July20 - August 15, 2009
First Six-week Session	May26 - July 4, 2009
Second Six-week Session	June 8 - July 18, 2009
Third Six-week Session	June 22 - August 1, 2009
Fourth Six-week Session	July 6 - August 15, 2009
Eight-week Session	June 22 - August 15, 2009
Twelve-week Session	May26 - August 15, 2009

LEGAL HOLIDAYS: Labor Day (9/1/08); Thanksgiving (11/27/08); Martin Luther King, Jr. Day (1/19/09) ; Memorial Day Observed (5/25/09); Independence Day (7/4/09, 7/4/10)

Financial Assistance

You are eligible to apply for the following types of assistance available through the University of Wisconsin-Milwaukee:

1. **Graduate fellowships** administered through the Graduate School Fellowship Office. Call (414) 229-6267 for information.
2. **Teaching, research, and project assistantships** administered through individual graduate programs. Contact your graduate program unit.
3. **Loans, work study, and student employment** administered through the Financial Aid Office. Call (414) 229-4541 for information.
4. **Fellowships and scholarships in specific degree programs.** Consult with your graduate program unit about availability of these awards.

More information on these programs is also available on the Web, at www.graduateschool.uwm.edu/.

For More Information

There are many references in this book to further information on the Graduate School Web site. If you do not have access to or cannot view the Internet, you may request further information. Call Graduate Student Services at (414) 229-6569 or stop by Room 261 of Mitchell Hall, 3203 N. Downer Ave., Milwaukee.

Administration

GRADUATE SCHOOL

Office of the Dean
Colin Scanes, Vice Chancellor for Research and Economic Development and Dean of the Graduate School
John P. "Jack" Keating, Associate Vice Chancellor for Research and Economic Development
Mark T. Harris, Associate Dean
Gwat-Yong Lie, Associate Dean
Linda Berg, Assistant Dean, Human Resources and Budget
Kenneth Buelow, Director, Information Technology and Analysis

Graduate Academic Programs and Student Services
Wendy M. Fall, Director, Graduate Student Services
Karen Dredge, Coordinator, Academic Programs and Student Support Services
Nichlos Ewoldt, Director, Graduate Opportunities Office

Research and Sponsored Program Services
Peggy M. Vanco, Director

THE UNIVERSITY OF WISCONSIN-MILWAUKEE

Administration
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Rita H. Cheng, Provost and Vice Chancellor
Pat Borger, Vice Chancellor, Development
Christy L. Brown, Vice Chancellor, Finance and Administrative Affairs
Joan Prince, Assistant Chancellor, Partnerships and Innovations
Colin Scanes, Vice Chancellor for Research and Economic Development and Dean of the Graduate School
Helen L. Mamarchev, Vice Chancellor, Student Affairs
Tom Luljak, Vice Chancellor, University Relations and Communications

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Robert Greenstreet, Dean, School of Architecture and Urban Planning
Wayne Hobgood, Dean, Dean, Peck School of the Arts
Kanti Prasad, Dean, Lubar School of Business
Alfonzo Thurman, Dean, School of Education
Michael R. Lovell, Dean, College of Engineering and Applied Science
Colin Scanes, Dean, Graduate School
Johannes Britz, Interim Dean, College of Health Sciences
G. Richard Meadows, Dean, College of Letters and Science
Johannes Britz, Dean, School of **Information Studies**
Sally Lundeen, Dean, College of Nursing
Stan Stojkovic, Dean, Helen Bader School of Social Welfare
Mark Krueger, Interim Dean, School of Continuing Education

UW SYSTEM

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Mark J. Bradley (Regent president), Wausau
Elizabeth Burmaster, Madison
Eileen Connolly-Keesler, Neenah
Judith V. Crain, Green Bay
Mary Quinnette Cuene, Green Bay
Danae Davis, Milwaukee
John Drew, Milwaukee
Michael J. Falbo, Milwaukee
Thomas Loftus, Sun Prairie
Kevin Opgenorth, Platteville
Charles Pruitt (Regent vice president), Milwaukee
Brent Smith, La Crosse
Michael J. Spector, Milwaukee
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Bob Andersen, Senior Special Assistant to the President
Judith Temby, Secretary to the Board of Regents

ADMINISTRATIVE LEADERSHIP

- Phone: (414) 229-4740
- Fax: (414) 229-5300
- E-mail: admlead@soe.uwm.edu

School/College: School of Education
Degrees Conferred: MS in Administrative Leadership

Overview

The Department of Administrative Leadership offers a graduate program of studies with three emphases: educational administration and supervision, adult and continuing education leadership, or higher education administration.

The emphasis on educational administration and supervision prepares the student for a career as a school district administrator, elementary, middle, or secondary school administrator, director of special education and pupil services, school business manager, or curriculum director. Through this program of studies, the student can fulfill professional education requirements for administrative and supervisory licenses in Wisconsin and most other states.

The emphasis on adult and continuing education leadership prepares the student for positions of leadership in post-secondary programs including vocational and technical education, university extension, continuing professional education, in-service training and human resource development, adult basic education, adult literacy, and educational leadership and program development in health, religious, manpower and other agencies and community educational programs.

The focus on Human Resource and Workforce Development within this emphasis is offered as an online program.

The emphasis on higher education administration prepares the student for careers in higher education including such options as student advisors, managers of support programs for traditionally underrepresented students, student housing specialists, student programming specialists, business managers, and specific administrative positions at all levels of higher education organizations.

The Department also offers a course of study leading to the Specialist Certificate in Administrative Leadership—required for the school superintendency and recommended for other school or adult education administrative or supervisory positions.

Under the auspices of the PhD program in Urban Education, the Department offers doctoral level specializations in educational administration and in adult and continuing education.

Graduate Faculty

Professors
- Kritek, William, Ph.D., Washington University
- Martin, Larry G., Ph.D., University of Wisconsin-Madison
- Schneider, Gail, Ph.D., University of Wisconsin-Madison

Associate Professors
- Beachum, Floyd, Ed.D. Bowling Green State University
- Conceicao, Simone, Ph.D., University of Wisconsin-Madison
- Crampton, Faith, Ph.D., The Ohio State University
- Daley, Barbara J., Ph.D., Cornell University, Chair
- Dentith, Audrey, Ph.D., Pennsylvania State University

Assistant Professors
- Akdere, Mesut, Ph.D., University of Minnesota-Twin Cities
- LaNear, John, J.D., University of Missouri - Kansas City
- Mina, Liliana, Ph.D., Michigan State University
- Smith, Regina, Ph.D., Michigan State University

Master of Science in Administrative Leadership

Admission

An applicant must meet Graduate School requirements to be considered for admission to the program.

Major Professor as Advisor

The student must have a major professor to advise and supervise the program of studies as specified in Graduate School regulations. A student who is not assigned to an advisor at time of admission should immediately contact the Department Chair.

Emphasis on Educational Administration & Supervision

Credits and Courses

Minimum degree requirement is 33 graduate credits, 27 of which must be in education and 6 of which may be in related fields. Credit distribution must be: 18-24 credits in educational administration and supervision; 9-15 credits in related electives, of which 6 credits may be earned through a thesis or master's paper.

The student plans an individual program of studies in consultation with a major professor. If the student intends to apply for the Specialist Certificate upon completion of the master's degree, the program of studies may satisfy Specialist Certificate admission requirements.

Thesis or Master's Paper

Thesis or Master's Paper Optional. See Credits and Courses above.

Comprehensive Examination

The student must pass a written and/or oral final comprehensive examination.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Emphasis on Adult and Continuing Education Leadership

Credits and Courses

Minimum degree requirement is 33 graduate credits, 24 of which must be in education and up to 9 of which may be in related fields. Credit distribution must be: 15 credits in adult education; 9 credits in foundations; and 9 credits in related electives, of which 6 credits may be earned through a thesis or master's paper. The student plans an individual program of studies in consultation with the major professor. If a student intends to apply for a Specialist Certificate upon completion of the master's degree, a program of studies can be arranged so that a portion of the credits earned toward the degree will also partially or completely satisfy admission requirements for a course of study leading to the Specialist Certificate, as detailed below.

Thesis or Master's Paper

Thesis or Master's Paper Optional. See Credits and Courses above.

Comprehensive Examination

The student must pass a written and/or oral final comprehensive examination.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Emphasis on Higher Education Administration

Credits and Courses

Minimum degree requirement is 33 graduate credits, 27 of which must be in education and 6 of which may be in related fields. Credit distribution must be: 12 credits in the core area of higher education administration, 9 credits in the focus area of higher education administration, and 12 credits of foundation and elective courses.

The student plans an individual program of studies in consultation with a major professor.

Thesis or Master's Paper

Optional.

Comprehensive Examination

The student must pass a written and/or oral final comprehensive examination.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Specialist Certificate in Administrative Leadership

A master's degree is the minimum prerequisite for admission to the Specialist Certificate. The Certificate can be taken with a career emphasis in the superintendency, the principalship, supervision, central office administration, or adult education administration. A cooperative relationship for the Specialist Certificate exists with the Department of Curriculum and Instruction for students with a reading supervision emphasis.

Admission

Applicants must meet these departmental requirements:

- Completion of a master's degree with a graduate grade point average of 3.5 or above (4.0 scale). The master's degree may be in any field.
- Written statement of professional objectives and educational experience.
- Applicants not meeting the grade point minimum may be admitted upon submission of additional data to be specified by the Department chair.

Course of Study

Credit and course requirements depend up-on the applicant's degree field. For an applicant with a master's degree in educational administration and supervision or adult education, the minimum credit requirement is 27 graduate credits, normally distributed as follows: 21-24 credits in administrative leadership, and 3-6 credits in related electives, including 3 credits in an applied research project. For an applicant with a master's degree earned in a field other than educational administration and supervision or adult education, the minimum credit requirement is 30 graduate credits. Additional coursework may be required for administrative certification.

Health Professional Education Certificate

The health professional education certificate is designed to provide health professionals with additional preparation in educational principles and theory to support them in their roles as educators of students and staff in the health professions as well as in the role of patient educator. This program is open to students simultaneously enrolled in a graduate degree program, as well as to health professionals who have completed a baccalaureate, master's or doctoral degree. The certificate program is a collaborative program between the College of Health Sciences and Schools of Nursing and Education, and is coordinated through the College of Nursing.

Admission

Applicants are admitted to the certificate program in one of three categories: post-baccalaureate, current student in a UWM graduate health profession program, or post-graduate student.

- Post-baccalaureate students must have completed a bachelor's degree in a health profession discipline with a grade point average of 2.75 or above (4.0 scale) and not be currently enrolled in a graduate degree program at UWM.
- The admission requirements of the health professional educational certificate for students enrolled in good standing in a UWM graduate health profession program are consistent with those requirements specified by the program.
- Post-graduate students must have completed a graduate degree in a health profession or related discipline with a grade point average of 3.0 or above (4.0 scale).

Credits and Courses

The completion of 15 credit hours (5 courses) is required for the certificate program. All students are required to complete 2 core courses, Principles & Foundations of Adult Education (3 credits) and Practicum & Seminar in Health Professional Education (3 credits). In addition students will complete 3 credits in the area of curriculum/program planning and evaluation, 3 credits in teaching/instructional strategies, and 3 credit hours in an elective area. A current listing of courses that meet these requirements can be obtained from the College of Health Sciences or the College of Nursing. Students will need to maintain a 3.0 GPA and meet all other requirements of the Graduate School for continuation in the program. The Practicum and Seminar in Health Professional Education is the last course taken in the certificate program.

Up to six credits of graduate courses taken at UWM or another institution prior to admission to the certificate program will be allowed to transfer to meet requirements for the certificate. Such courses must meet Graduate School requirements for transfer credit.

Time Limit

The student must complete all certificate course work within three years of initial enrollment in the certificate program.

Doctor of Philosophy in Urban Education

Specialization in Adult and Continuing Education

This program, under the auspices of the doctoral program in Urban Education, provides a specialization in Adult and Continuing Education Leadership. In general, this specialization requires advanced course work and inquiry in such areas as urban adult education, continuing education in the professions, adult and organizational learning, human resources development, and philosophy and history of adult education, particularly as these areas relate to the governance and leadership issues of urban adult education organizations. The program is described in detail in the Urban Education section of this Bulletin.

Specialization in Educational Administration

This program, under the auspices of the doctoral program in Urban Education, provides a specialization in Educational Administration. In general, this specialization requires advanced course work and inquiry in such areas as organizational theory, policy-making, staff

development and leadership, particularly as these areas relate to the governance and leadership issues of urban schools and educational organizations. The program is described in detail in the Urban Education section of this Bulletin.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; cons instr; acceptance for Study Abroad Prog.

500 Administration of American Public Schools. 3 cr. U/G.
- Prereq: jr st. Available as grad level only.

507 Introduction to Group Leadership. 3 cr. U/G.
Concepts and theories of group and organizational leadership applied to problems of youth-serving organizations and student activities in secondary and post-secondary schools and colleges. Prereq: jr st.

517 Introduction to Adult Education Practice. 3 cr. U/G.
Objectives, organization and practices of postsecondary programs of lifelong learning, adult and continuing education, and community and public service programs. Prereq: jr st.

537 Leadership and Management of Volunteer Programs. 3 cr. U/G.
Introduction to volunteers and organizations which utilize them. Course emphasizes practical application of leadership skills needed for effective management and training of volunteers. Prereq: jr st.

547 The Educational Dimensions of Practice with Older Adults. 3 cr. U/G.
Current problems, issues and research relating to the development and organization of educational programs for older adults. Prereq: jr st.

557 Foundations and Philosophy of WTCS in Wisconsin. 2-3 cr. U/G.
History, philosophy, objectives, organization and legal bases for vocational education, with special emphasis given the movement in Wisconsin. Prereq: jr st or vocational teachers or cons instr.

567 Supervision and Planning for Vocational and Technical Education. 3 cr. U/G.
Social, economic, philosophical, and historical foundations of career education. Exploration of past, present and projected models. Strategies for program selection, community involvement, evaluation and management. Prereq: jr st or cons instr.

577 Adult Literacy and Workforce Development. 3 cr. U/G.
Analyzes the problem of adult low literacy and its effects on work force development; presents alternative procedures for providing educational programs. Prereq: jr st.

579 Current Topics in Administrative Leadership: (Subtitled). 1-3 cr. U/G.
Current problems, issues and research in administrative leadership and supervision and their implications for practitioners. May be repeated with change in topic to max of 9 cr. Prereq: jr st.

581 Administration and Supervision in Early Childhood Programs. 3 cr. U/G.
Analyzes, from a quality perspective, the administrative roles and responsibilities of various early care and education programs, and the groups with whom they have relationships. Prereq: jr st.

582 Operations Management in Early Childhood Programs. 3 cr. U/G.
An introduction to systems and operations theory. Students explore and apply management concepts, systems, policies, and procedures to improve the quality of programs and services. Jointly offered with & counts as repeat of Ed Pol 582. Prereq: jr st; Ad Ldsp 581(P); or cons instr.

583 Financial Management and Planning in Early Childhood Programs. 3 cr. U/G.
Identifies the principles of sound financial management and develops the ability to apply those principles to the financial planning and management of early childhood programs. Prereq: jr st & Ad Ldsp 581(P); or cons instr.

586 Administrative Seminar: Leadership in Early Childhood Programs. 3 cr. U/G.
Integrates and applies the concepts and skills acquired in the first five courses as demonstrated in the development of a major project by each student. Prereq: jr st & Ad Ldsp 581(P); Ad Ldsp 582(P) or Ed Pol 582(P); Ad Ldsp 583(P); Ed Pol 584(P); CurrIns 585(P).

587 Serving Multicultural and Special Needs Learners. 3 cr. U/G.
Examines the needs of multicultural and adult vocational special needs learners; explores strategies for revising instructional methods/approaches and program development. Prereq: jr st.

597 Program Development in Occupational Education. 3 cr. U/G.
Technical, administrative, organizational, and participatory skills and knowledge associated with program development in occupational education for adults and adolescents. Prereq: jr st.

605 Survey of Human Resource Development. 3 cr. U/G.
Introduction to human resource development theories, principles, concepts, and practices. Prereq: sr st.

607 Coordination of Staff Development and Training Program. 3 cr. U/G.
Provides knowledge and skills required for the design, coordination and administration of staff development and training programs. Prereq: jr st.

617 Leadership in Youth-Serving Organizations. 3 cr. U/G.
Introduction to the philosophy and operations of youth-serving organizations, administration of programs, and the role of youth-serving organizations in the larger community. Prereq: jr st.

630 Field Work in Schools, Agencies and Institutions. 2-6 cr. U/G.
Field inquiry and experience in applied problems of administrative leadership in school administration, supervision or adult education in conjunction with seminar sessions to relate theory to practice. Retakable to max of 6 cr. Prereq: Ad Ldsp 517(P) or 702(P) or 757(657)(P); cons instr.

647 Evaluation of Adult and Continuing Education Programs. 3 cr. U/G.
Provides an awareness, analysis, and synthesis of the purposes, methods, and procedures for evaluating diverse types of adult education programs, e.g., HRD, extension/outreach, etc. Counts as repeat of Ad Ldsp 579 with similar title. Prereq: jr st.

667 Program Planning in Adult Education. 3 cr. U/G.
Principles and processes affecting programming of adult education. Focus on planning, execution, and evaluation dimensions of the programming process. Prereq: jr st; Ad Ldsp 517(P) or 757(657)(P).

677 Issues in Adult Basic Education. 3 cr. U/G.
Analysis of research and practice relative to current issues in adult basic education. Prereq: jr st; Ad Ldsp 577.

687 Instructional Design and Teaching Strategies. 3 cr. U/G.
Using an instructional design approach, students develop skills in selecting, using, and evaluating instructional strategies and procedures appropriate to particular domains of adult learning. Prereq: jr st; Ad Ldsp 517(P); or cons instr.

689 Workshop in Administrative Leadership: (Subtitled). 1-3 cr. U/G.
A workshop for practitioners focusing on common problems and concerns in light of current studies and research. Specific topics and any additional prereqs will be announced in the Schedule of Classes each time the course is offered. May be repeated with change of topic to max of 9 cr. Prereq: jr st; leadership experience or cons instr.

702 Leadership in Educational Organizations. 3 cr. G.
Governance; social, political, and economic influences; theories of organizations and organizational behavior related to the

administration of elementary and secondary schools. Prereq: grad st.

707 Using Technology With Adult Learners. 3 cr. G.

Design and management of web-based instructional programs/classes applying principles of instructional design, media, and software applications for adult learners. Prereq: grad st; Ad Ldsp 757.

709 Introduction to Higher Education Administration. 3 cr. G.

Contemporary issues of higher education focusing on historical, philosophical and sociological forces that affect higher education from an administrative perspective. Prereq: grad st

710 Organizational Change and Team Leadership. 3 cr. G.

Organizational change and team leadership is designed to introduce theories and concepts in organizational change and the interpersonal dynamics of working with and leading teams. Prereq: grad st; Ad Ldsp 702 or 757(657) or cons instr.

711 Organization and Governance in Higher Education Administration. 3 cr. G.

Overview of higher education institutions focusing on models of institutional governance, academic organization and higher education constituencies and their respective roles. Prereq: grad st

712 Instructional Leadership. 3 cr. G.

Personnel functions of the building principals recruitment, induction, staff development, supervision, and evaluation. Field experience integrated into course activities. Prereq: grad st; Ad Ldsp 702 or cons instr.

725 The Politics of Education. 3 cr. G.

An examination of political decision-making at federal, state, and local levels, governments, and education. Prereq: grad st; Ad Ldsp 705 or 657 or cons instr.

729 Qualitative Research and Field Studies in Education Settings. 3 cr. G.

Examination of qualitative techniques as applied to educational research and evaluation in schools, classrooms, and other educational settings. Not open to students who have cr in CurrIns 729 which is identical to Ad Ldsp 729. Prereq: grad st; Ed Psy 528 or equiv.

732 The Politics of Education. 3 cr. G.

School-level politics of education and school-community relations. Focus on effective communication. Community assessment, partnerships, parent education, and related issues. Prereq: grad st; Ad Ldsp 702 or cons instr.

737 Distance Education for Adults. 3 cr. G.

Analysis of concepts, theories, and research in distance teaching and learning focusing on adult learners, program development and assessment of distance teaching and learning. Prereq: Ad Ldsp 757 or cons instr.

742 Administrative Planning in Education: Concepts, Theories, and Practice. 3 cr. G.

Systematic methods, administrative techniques, and practice related to development, implementation, and assurance of quality in operational and strategic planning in education. Prereq: grad st; Ad Ldsp 702 or cons instr.

745 Seminar in Educational Administration and Supervision. 3 cr. G.

In depth study of selected problems and aspects of educational administration and supervision. Each student will pursue a topic or project selected with instructor's approval. Prereq: grad st; Ad Ldsp 705, 706 & 740.

747 Strategic Planning and Budgeting in Adult Education. 3 cr. G.

Examines theoretical models and research literature on both strategic and operational planning, and the budgeting process for adult and continuing education organizations. Prereq: Ad Ldsp 667 or cons instr.

750 Internship in Administrative Leadership. 1-6 cr. G.

Field experience in school and social agency sellings under guidance of an experienced administrator and a faculty member. Prereq: grad st; Ad Ldsp 710 & cons advisor.

752 School Law. 3 cr. G.

Authority, power, liability of school personnel, legal status of school districts, officers, pupils. Legal controls on curriculum, property, finances. Emphasis on state, federal court decisions. Prereq: grad st; Ad Ldsp 702 or cons instr.

757 (657) Principles and Foundations of Adult Education. 3 cr. G.

A study of concepts, theories and principles of adult education, the nature of adult processes, and factors that influence and facilitate adult learning. Prereq: grad st or cons instr.

762 Management of Educational Resources. 3 cr. G.

Building level school finance and fiscal management. Federal, state, and local taxation policies; equity; budgeting, purchasing, and fiscal control of public and student funds. Prereq: grad st; Ad Ldsp 702 or cons instr.

767 Practicum in Program Planning and Implementation. 3 cr. G.

Application of program planning principles including program development, budgeting, marketing, facilities management and evaluation in the implementation of an education program. Prereq: grad st, Ad Ldsp 667 or 702 (705).

772 The Principalship. 3 cr. G.

In-depth seminar examining the problems and issues of school administration at the building level. Prereq: grad st; completion common core.

777 Leadership in Multicultural Organizations. 3 cr. G.

Analyzes concepts and theories of leadership, issues of diversity in organizations, and explores techniques for managing differences that comprise today's multicultural workforce. Prereq: grad st; Ad Ldsp 757(657) or 702(705) or cons instr.

778 Introduction to College Student Personnel Administration. 3 cr. G.

Introduction to college student personnel administration stressing the various components that encompass student affairs practice in collegiate settings. Prereq: grad st

779 Current Topics in Administrative Leadership: (Subtitled). 1-3 cr. G.

Current problems, issues and research in administrative leadership and supervision and their implications for practitioners. Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st.

782 Principalship Field Practicum. 1-3 cr. G.

Field application of knowledge, concepts and skills learned in principal accreditation course work. Seminar attendance required. Retakeable to max of 3 cr. Prereq: grad st; compl common core & Ad Ldsp 772.

787 Administration of Adult Education Programs. 3 cr. G.

Current behavioral concepts, theories, and processes of administration, supervision, and coordination as applied in adult education organizations and agencies. Prereq: grad st; Ad Ldsp 757 or writ cons instr.

790 Internship in Instructional Leadership. 3 cr. G.

Relevant field experience for candidates seeking the WI DPI Director of Instruction administrative license. Prereq: grad st; completion of common core

792 Principalship Field Practicum. 3 cr. G.

Roles, responsibilities, and operational tasks of principals with practical application of knowledge, theories, systems, and processes. Field experience component and seminar component. Prereq: grad st; compl common core

795 Women and Leadership in Education. 3 cr. G.

Issues of women's leadership within the field of education in the United States. Prereq: grad st

798 Seminar in Human Resource Development. 3 cr. G.

Analyzes the concepts, current research, issues, and trends in the area of human resource development and how these issues influence organizational performance. Prereq: grad st; Ad Ldsp 607.

799 Independent Reading. 1-3 cr. G.

For graduate students unable to secure needed content in regular courses. Prereq: grad st; cons instr & advisor.

800 Administration of the School Plant. 2-3 cr. G.
Determination of school plant needs based upon educational program, population, and utiligation studies. Evaluation of existing school plant. Prereq: grad st; Ad Ldsp 705 & 706.

801 Urban Education: Doctoral Seminar in Administrative Leadership. 3 cr. G.
Administrative leadership and policy development in urban education. Prereq: grad st; admis to ph.d. prog in urban educ; Educ 701.

802 District Leadership for Learning. 3 cr. G.
A study of the special problems and opportunities involved in administering school districts, focusing on the role of the district administrator. Prereq: post masters st; or cons instr.

812 Educational Personnel Administration and Supervision. 3 cr. G.
Focus on major concepts, functions and problems of personnel administration in education including recruitment, assignment, evaluation and motivation. Prereq: grad st; Ad Ldsp 802 or cons instr.

827 Seminar in Adult and Organizational Learning. 3 cr. G.
Application of transformative, critical, and action learning concepts to personal and professional development. Prereq: grad st; Ad Ldsp 710(P).

829 Advanced Qualitative Research Techniques for Education Settings. 3 cr. G.
Advanced examination of qualitative research techniques in three areas; conceptual design; data collection methods and data analysis and reporting. Not open to students who have cr in CurrIns 829 which is identical to Ad Ldsp 829. Prereq: Ad Ldsp 729 or cons instr.

832 Educational Politics and Policymaking. 3 cr. G.
An examination of political sources of decision making in education. The role of interest groups in shaping educational policy and implementation at local, state, and national levels. Prereq: post-master's st; Ad Ldsp 802 or cons instr.

839 Practicum in Writing from Qualitative Research for Educational Settings. 3 cr. G.
Practice in writing from qualitative research data and analysis of qualitative text. Not open to students who have cr in CurrIns 839 which is identical to Ad Ldsp 839. Prereq: grad st; Ad Ldsp or CurrIns 729(P) & 829(P).

842 Program Planning and Evaluation in Education. 3 cr. G.
Theory, research, and practice regarding role of the superintendent in planning and evaluating education programs. Case studies, simulations, and field applications. Prereq: grad st; Ad Ldsp 802 or cons instr.

850 Supervision of Student Teaching. 3 cr. G.
The role and responsibilities of the supervising teacher in planning, guidance and evaluation of the learning experiences of prospective teachers. Prereq: grad st; Ad Ldsp 705 or cons instr.

852 Collective Bargaining and Contract Administration in Education. 3 cr. G.
Study of theory and practice of collective bargaining in educational systems. Prepares educators to manage the bargaining process and administer the contract. Prereq: postmaster's st; Ad Ldsp 802 or cons instr.

857 Seminar in Leadership for Change. 3 cr. G.
A critical examination of problems and issues in change theory and practice and their implications for administrative leadership. Prereq: grad st; Ad Ldsp 657 or 705 or writ cons instr.

860 Administrative Behavior. 3 cr. G.
Theoretical concepts, empirical research, simulated experiences related to administrative behavior in schools and service organizations. Relationships among organizational, role contexts and personal style of administrators. Prereq: grad st; Ad Ldsp 705 & 740, or cons instr.

862 School Finance. 3 cr. G.
Theoretical/contemporary bases for raising/distributing local, state, federal funds for public education. Problems, issues of public school financial support. Analysis of Wisconsin school support. Prereq: post-master's st, Ad Ldsp 802 or cons instr.

867 Seminar in Continuing Education in the Professions. 3 cr. G.
Analysis of the role and nature of continuing education in professions; current issues affecting the development of this field of adult education practice. Prereq: grad st; Ad Ldsp 667 or cons instr.

877 Seminar in Two-Year Post Secondary Institutions. 3 cr. G.
Present status, development, functions, organizational and curriculum trends in postsecondary nonbaccalaureate institutions. Prereq: grad st; Ad Ldsp 657 or cons instr.

880 Proseminar in Urban Education: Administrative Leadership. 3 cr. G.
An examination of selected problems and issues in urban education. Prereq: grad st; admis to the urban education doctoral prog.

882 Practicum in the School Superintendency. 1-3 cr. G.
Field application of the knowledge, concepts, and skills learned in concurrent course work. Seminar attendance required. Repeatable to 3 cr. Prereq: post-master's st; admis to District Administrator Cert Prog; cons instr.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr will be assessed. Repeatable to 3 cr. Prereq: grad st.

892 Specialist Applied Research Project. 2-6 cr. G.
Specialist project and inquiry in applied problems of administration and supervision. Prereq: postmaster's st; completion of 15 cr in specialist sequence; cons advisor.

893 Seminar in International Adult Education. 3 cr. G.
Introduction to the foundations, context, global, political, socio-economic, and educational issues for international adult education. Prereq: grad st

897 Seminar in the Philosophy and History of Adult Education. 3 cr. G.
Philosophical foundations related to the historical movement of adult education and implications for future directions. Prereq: grad st; Ad Ldsp 657 or cons instr.

905 Workshop for Administrators: (Subtitled). 1-6 cr. G.
A workshop for superintendents, building administrators and supervisors. Opportunities to examine school problems of major concern in the light of current studies and experience. Prereq: grad st; cert as school admin or supervisor or cons instr. Admin or supervision experience recom.

955 Seminar in Instructional Supervision. 3 cr. G.
Problems of teacher-learner and supervisory relationships in improvement of instructional programs and development of personnel. Analysis of selected problems. Prereq: postmaster's st; elgibility for building administrator or supervisor cert.

960 Seminar in Economics of Education. 3 cr. G.
Financing public education. Efficient allocation and use of facilities and material. Theoretical bases and premises of public education financial support. Federal, state, and local relationships. Prereq: grad st; Ad Ldsp 862.

967 Seminar in Urban Adult Education. 3 cr. G.
Critical survey of problems and issues in adult education in the urban context. Analysis of selected problems in designing and implementing effective programs. Prereq: grad st; Ad Ldsp 657.

970 Policy Issues in Urban Education. 1-3 cr. G.
Examines recent policy developments in education, socio-political forces which have defined policy direction, and major points of controversy surrounding educational policies. Prereq: postmaster's st or cons instr.

990 Research or Thesis. 1-3 cr. G.
- Prereq: grad st; cons instr.

999 Independent Reading. 1-3 cr. G.
For the benefit of postmaster's students unable to secure needed content in regular courses. Prereq: grad st; cons instr.

AFRICOLOGY

- Phone: (414) 229-4155
- Fax: (414) 229-4607

School/College: College of Letters and Science

No Degree Conferred: Courses Only

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

300 Urban Violence. 3 cr. U/G.
Analysis of the nature, causes, and consequences of urban violence; the possibilities and limits of violence in promoting the good of blacks will be scrutinized. Prereq: jr st.

311 African Religious Thought and Social Organizations. 3 cr. U/G.
A critical analysis of foundations from which complex social structures and institutions evolved in the diverse societies of the Afroworld. Prereq: jr st.

319 History of Blacks in the American City. 3 cr. U/G.
A consideration of the contributions of blacks to the growth and development of the American city. Prereq: jr st.

321 Black Workers in Technologic Society. 3 cr. U/G.
Analysis of scientific and technological changes in America since 1900, and their qualitative as well as quantitative impact on black productivity and participation in the work force. Prereq: jr st.

322 Order and Disorder: The Quest for Social Justice. 3 cr. U/G.
An analysis of the forms, purposes, and effects of order and disorder in relation to black people's quest for social justice. Prereq: jr st.

326 Economic Problems of Black Business. 3 cr. U/G.
Examination of major economic problems of black business; liquidity, credit, market shares, insurance, rents, mortgages, and location are analyzed in relation to black business performance. Prereq: jr st.

329 Problems and Prospects of U.S./Africa Economic Relations. 3 cr. U/G.
Analysis of the economic relationships between Africa and the United States, with special consideration given to political and social factors. Prereq: jr st.

344 Political Movements and Organizations in the Afroworld. 3 cr. U/G.
Analysis of leadership, ideology, and the structure of black political movements and organizations in the twentieth century. Prereq: jr st.

350 The Black Family. 3 cr. U/G.
An examination of the structure and functions of the black family in its urban and rural contexts. Prereq: jr st.

450 Cultural Transmissions: Black Africa and Black America. 3 cr. U/G.
A cross-national and cross-cultural comparison of the societies and cultures of black Americans and black Africans. Prereq: jr st.

451 Rites of Passage in Black Societies. 3 cr. U/G.
Foundations of the use of rites of passage in different societies throughout Africa and the African diaspora. Prereq: jr st.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

565 Selected Texts/Topics in Africology: (Subtitled). 3 cr. U/G.
Examination of selected problems, issues, and themes in Africology. Retakable w/chg in topic to 6 cr max. Prereq: jr st.

799 Graduate Independent Study. 1-3 cr. G.
Independent work supervised by a member of the graduate faculty. Retakable w/ chg in topic to 9 cr max. Prereq: grad st; cons instr.

ANTHROPOLOGY

- Phone: (414) 229-4175
- Fax: (414) 229-5848
- E-mail: jjb@uwm.edu

School/College: College of Letters and Science

Degrees Conferred:

- MS in Anthropology
- PhD in Anthropology

Overview

The Department of Anthropology offers programs of graduate study designed to provide a broad background in all significant facets of the discipline—biological as well as cultural, analytic as well as descriptive—while still encouraging specialization. It provides training both for students interested in an academic career in anthropology and for those concerned with practical issues approached from the integrative perspective of anthropology.

The department, in cooperation with the Milwaukee Public Museum, also offers a program leading to a Certificate in Museum Studies. The Milwaukee Public Museum, the fourth largest natural history museum in the country, is the site for methods courses that provide the student practical experience in museum work and for courses in the history and theory of museum exhibits. Each student's program of studies includes training in anthropological theory and methods, issues and problems in cultural anthropology, archaeology, anthropological linguistics and physical anthropology, as well as topics that focus on the student's area of particular interest.

MS/MLIS Coordinated Degree Program

In cooperation with the School of Information Studies, the Department of Anthropology offers a MS/MLIS program (51 credits) to prepare students for positions as curators of museum libraries, and as information specialists and researchers for local history collections and state historical societies. Students enrolled in this program concurrently pursue the MS degree in Anthropology (21 credits in Anthropology) and the MLIS degree (30 credits in SOIS). Candidates for the coordinated degree program will be expected to fulfill the degree requirements of both programs. Degrees will be awarded simultaneously.

Graduate Faculty

Professors

Anapol, Fred, Ph.D., State University of New York at Stony Brook
Gray, J. Patrick, Ph.D., University of Colorado
Jeske, Robert, Ph.D., Northwestern University, Chair
Turner, Trudy, Ph.D., New York University
Washabaugh, William, Ph.D., Wayne State University

Associate Professors

Ajirotutu, Cheryl S., Ph.D., University of California-Berkeley
Applbaum, Ingrid Jordt, Ph.D., Harvard University
Applbaum, Kalman Ph.D., Harvard University
Arnold, Bettina, Ph.D., Harvard University
Brodwin, Paul, Ph.D., Harvard University
Fredlund, Glen, Ph.D., University of Kansas
Heatherington, Tracey, Ph.D., Harvard University
Hudson, Jean, Ph.D., University of California-Santa Barbara
Malaby, Thomas, Ph.D., Harvard University

Assistant Professors

Bornstein, Erica, Ph.D., University of California-Irvine
Perley, Bernard, Ph.D., Harvard University
Sherman, R. Jason, Ph.D., University of Michigan

Associate Scientists

Richards, John, Ph.D., University of Wisconsin-Milwaukee
Richards, Patricia, Ph.D., University of Wisconsin-Milwaukee

Master of Science in Anthropology

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

1. An undergraduate major in anthropology comparable to that at UWM.
2. Three letters of recommendation.
3. A writing sample such as a relevant term paper, article submission, etc.
4. Submission of scores from the General Test of the Graduate Record Examination.

Applicants without an undergraduate major in anthropology can meet the first requirement in either of two ways:

1. By having completed junior-level courses in three of the four subfields of anthropology (archaeology, biological anthropology, cultural anthropology, and linguistics) with grades of B or better. These courses may be taken at any accredited college or university if they were not part of the applicant's undergraduate career. Applicants also may take them as special students at UWM. Applicants planning to take such courses should check with the Director of Graduate Studies to verify that the courses will be acceptable. Students admitted to the program lacking an undergraduate class in archaeology, biological anthropology, or cultural anthropology must take a U/G class in that subfield before taking the core class or advanced seminar in that subfield.
2. Applicants lacking courses in anthropology may be admitted to the program and be allowed to take the core classes and advanced seminars without deficiencies under certain conditions. For example, an applicant with an outstanding GPA or very high GRE scores who has an undergraduate major closely related to his or her proposed field of specialization could be admitted under this option.

Students are expected to satisfy deficiency requirements within three semesters of enrolling in the program. Deficiencies are monitored by the Graduate School and the Director of Graduate Studies. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Application deadlines for admission to the program are January 15th for the following Fall semester and September 15th for the following Spring semester. Applicants requesting financial assistance may have other deadlines to be considered eligible. Contact the department's Director of Graduate Studies for specific financial aid deadlines.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student selects an advisor, in consultation with the Director of Graduate Studies, by the end of the first semester of the program.

Credits and Courses

Students in the Master's degree program in Anthropology are required to take a minimum of 30 credits, some of which are obtained by taking required courses. Required courses differ by concentration (requirements for students seeking to acquire a Certificate in Museum Studies are under the heading "Certificate in Museum Studies.")

Archaeology concentration:

Core courses (12 Credits)
Anthro 801
Anthro 802
Anthro 803
Anthro 804
Methods courses (6 Credits)
Anthro 568 (required)
Anthro 562 (or alternative)
Advanced seminar (3 Credits)
Anthro 942
Electives (9 Credits)

Biological Anthropology concentration

Core courses (12 Credits)
- Anthro 801
- Anthro 802
- Anthro 803
- Anthro 804

Methods courses (6 Credits)
- Anthro 568 (required)
- Anthro 701 (or alternative)

Advanced seminar (3 Credits)
- Anthro 950 (or alternative)

Electives (9 Credits)

Cultural Anthropology concentration

Core courses (12 Credits)
- Anthro 801
- Anthro 802
- Anthro 803
- Anthro 804

Methods courses (6 Credits)
- Anthro 560 and/or 561 and/or 568

Advanced seminar (3 Credits)
- Anthro 940 (or alternative)

Electives (9 Credits)

Linguistic Anthropology concentration

Core courses (12 Credits)
- Anthro 801
- Anthro 802
- Anthro 803
- Anthro 804

Methods courses (6 Credits)
- Anthro 560 and/or 561 and/or 568 (or alternative)

Advanced seminar (3 Credits)
- Anthro 969 (or alternative)

Electives (9 Credits)

Alternatives for methods and advanced seminars must be approved by the student's major professor.

Students may request a waiver for any of the above required courses except the advanced seminar. A waiver is requested by submitting a letter to the Graduate Studies Committee. Requests for waivers must be accompanied by documentation demonstrating that the student is competent in the subject area of the course for which the waiver is sought. A waived course must be replaced by an anthropology course numbered 700 or above.

Students must maintain a B (3.0) average or better overall. The four core courses must be completed with an average of 3.0 or better and with no grade below a B . Students with a grade below a B in a core course who are subsequently accepted into the Ph.D. program must retake the course until they achieve a grade of B or better.

A thesis is required of all students; students may apply up to 6 credits of Research/Thesis courses toward meeting the minimum credits for the degree. The thesis must be formatted in accord with Graduate School requirements. Students will submit one copy of the thesis to the Graduate School and a second copy (unbound) to the Department of Anthropology.

Thesis Defense

The student must pass an oral thesis defense. The examination committee must consist of at least three individuals, with a majority being members of the Anthropology Department.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Certificate in Museum Studies

The Certificate in Museum Studies is designed for students who are interested in pursuing careers in the museum world. It must be completed in conjunction with a UWM graduate degree program.

Students in the MS in Anthropology must complete a minimum of 39 credits to earn the certificate and the master's degree. Those interested in attaining a Certificate in Museum Studies must indicate this in their application to the program. Students deciding to pursue the Certificate after having started the MS program must apply in writing to the Director of Graduate Studies by the deadline for Fall admission. In addition to the 15 credits required for the certificate, the following courses and credits are required:

Core courses (12 Credits)
- Anthro 801
- Anthro 802
- Anthro 803
- Anthro 804

Methods courses (3 Credits)
- Any from one of the four concentrations

Advanced seminar (3 Credits)
- Any from one of the four concentrations

Electives (6 Credits)

For students in other UWM graduate degree programs, six credits required for the certificate may count toward degree requirements, subject to approval of the home degree program.

The certificate program consists of five courses (15 credits) at the graduate level. The four core courses must be taken in the following sequence, while the fifth course may be taken at any time after the completion of Anthro 721:

- Anthro 720 History and Theory of Museums
- Anthro 721 Museum Collections Management
- Anthro 722 Exhibit Practicum
- Anthro 723 Museum Curation and Interpretation
- Anthro 724 or approved elective course

The fifth course requirement (Anthro 724) can be satisfied through supplementary course work at the University of Wisconsin-Milwaukee or through completion of a 150-hour internship at the Milwaukee Public Museum or other approved institution. Anthropology, Art History, History, and Educational Psychology all offer courses that supplement the Museum Studies curriculum and fulfill the required elective. The structure and scheduling of the course work requires at least two years for completion, since each course is taught only once a year and the four courses must be taken in sequence.

To receive the certificate, students must attain an overall GPA of 3.00 in the Anthro 720-724 sequence, and successfully complete all other degree requirements. There is a three-year time limit for completion of the certificate courses. The Museum Studies Certificate will be issued in conjunction with the graduate degree and posted on the student's transcript.

Doctor of Philosophy in Anthropology

Admission

An applicant must meet Graduate School requirements plus the following departmental requirements to be considered for admission to the program:

1. A general master's degree in anthropology or equivalent preparation without the master's degree. An applicant with a master's degree in another field may be admitted if the student has a grade point average of 3.0 (4.0 scale) in graduate work and is approved by the departmental Graduate Admissions Committee.
2. Three letters of recommendation.
3. A writing sample such as a relevant term paper, article submission, etc.
4. Submission of scores from the General Test of the Graduate Record Examination.

The department assigns each PhD student to a major professor. This assignment is based on the congruence of the applicant's interest and the expertise of the major professor. No applicant will be admitted to the program unless a faculty member agrees to serve as major professor.

Application deadlines for admission to the program are January 15th for the following Fall semester and September 15th for the following Spring semester. Applicants requesting financial assistance may have other deadlines to be considered eligible. Contact the department's graduate advisor for specific financial aid deadlines.

Reapplication

A student who receives the master's degree must formally reapply for admission to the Graduate School before continuing studies toward the PhD.

Residence

The student must meet minimum Graduate School residence requirements.

Course of Study

Minimum degree requirement is 54 graduate credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM.

The student, in consultation with the major professor, must plan a program of studies as soon as feasible after admission to the doctoral program. The program of studies must include a complement of courses in the student's major area of concentration, courses in a minor field, and demonstration of the acquisition of an approved specialized scholarly skill. A student lacking any of the courses (or equivalents taken elsewhere) required to attain a Master's degree in his/her major area of concentration must complete these courses as part of his/her Ph.D. work.

Minor

This requirement may be satisfied by minor options A or B (see general regulations and requirements of the Graduate School) or by a third option consisting of a sub-program of specialized coursework still within the broad field of anthropology. This third option must be approved by the Graduate Studies Committee. Foreign language or specialized scholarly skill This requirement may be satisfied by demonstrating the following:

- Proficiency in a foreign language useful in the student's career.
- Proficiency in mathematical, statistical, or computer skills.
- Proficiency in other skills that meet departmental approval.

Field or laboratory research A student must spend a period of at least three months in firsthand field or laboratory research.

Doctoral Preliminary Examination and Dissertation Proposal Defense

The student must pass an oral doctoral preliminary examination as one of the qualifications for dissertation status. Students will choose two to four topics in consultation with their advisor for the Preliminary Examination. The topics must be broader than, but related to the focus of the student's dissertation. The topics must be approved by the Department's Graduate Studies Committee and the Department faculty. The preliminary examination must be passed within five years of initial enrollment for a student to be eligible to continue in the program.

Another requirement that must be met before a student is eligible for dissertation status is a successful dissertation proposal defense before the student's doctoral committee.

Dissertation

The candidate must prepare a dissertation reporting in the candidate's own style the results of an original research investigation representing a substantive creative contribution.

Dissertation Defense

As the final step toward the degree, the candidate must pass an oral examination before his/her doctoral committee in defense of the dissertation.

Public Lecture

Each student is required to present a public lecture on the subject of his/her dissertation.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

Additional Graduate School PhD requirements

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

302 Anthropology and Popular Culture. 3 cr. U/G.
Aspects of popular culture including music, information technology, tourism, and film, video, and museum-spectacles in light of anthropological theory. Prereq: jr st; grade of C or better in English 102(P) or score of 637 or higher on EPT.

305 The Celtic World. 3 cr. U/G.
Archaeology, folklore and literature of the Celtic peoples in the British Isles and on the continent, explored and analyzed from an anthropological and historical perspective. Prereq: jr st.

306 European Archaeology. 3 cr. U/G.
Old World cultural development focusing on prehistoric Europe from the Paleolithic to the Roman period; European developments compared to other parts of the Old World. Prereq: jr st; Anthro 103(P) or cons instr.

307 World Archaeology: Foundations of Civilization. 3 cr. U/G.
Cultural developments in selected areas of Old and New Worlds; emphasis on origins of plant and animal domestication, sedentary life, and transition to urban civilization. Prereq: jr st; Anthro 103(P) or cons instr.

308 Archaeology of North America. 3 cr. U/G.
Main pre-Columbian cultures on the North American continent, north of Mexico. Prereq: jr st; Anthro 103(P) or cons instr.

309 Archaeology of Central and South America. 3 cr. U/G.
Main pre-Columbian cultures and civilizations of Central and South America, including the Caribbean. Prereq: jr st; Anthro 103(P) or cons instr.

310 Archaeology of Middle America. 3 cr. U/G.
Historical development and ecological settings of cultures and civilizations in Mexico and Central America from earliest times to the Spanish conquest. Prereq: jr st; Anthro 103(P) or cons instr.

314 American Indian Societies and Cultures. 3 cr. U/G.
Description and analysis of selected indigenous American cultures including subsistence, sociopolitical organizations, beliefs and Euro-American Indian policy. Prereq: jr st; Anthro 102(R).

315 Peoples and Cultures of Mexico and Central America. 3 cr. U/G.
Cultures of Mexico and Central America. Prereq: jr st; Anthro 102(R).

320 Peoples and Cultures of Africa. 3 cr. U/G.
Description and analysis of the cultures of Africa, especially south of the Sahara. Pereq: jr st; Anthro 102(R); grade of C or better in English 102(P) or score 637 or higher on EPT.

322 Europe in Anthropological Perspective. 3 cr. U/G.
Key topics in the anthropology of Europe, including nationalism and ritual, gender and politics, borders and immigration, and bureaucracy and citizenship. Prereq: jr st; Anthro 102(R).

325 Japanese Culture and Society. 3 cr. U/G.
Japanese culture and society, including marriage and the family, work life, education, rural and urban social organization, gender, ritual and life cycle. Prereq: jr st; Anthro 102(R).

326 Peoples and Cultures of South Asia. 3 cr. U/G.
The subcontinent south of the Himalayas, including India, Nepal, Pakistan, Bangladesh, and Sri Lanka. Prereq: jr st; Anthro 102(R).

328 Comparative Studies of Music, Race, and Gender in Nationalism. 3 cr. U/G.
A comparative study of the processes of nation-formation and of the roles played by race, gender, and music in constructing national identities. Prereq: jr st; Anthro 102(R); grade of C or better in English 102(P) or score 637 or higher on EPT.

335 American Indians of the Southeast. 3 cr. U/G.
Description and analysis of Southeastern Indian cultures, including subsistence, sociopolitical organizations, beliefs, and

Euro-American relations. Prereq: jr st; Anthro 102(R) & 314(R).

349 Seminar in Ethnography and Cultural Processes. 3 cr. U/G.
How sociocultural processes are confronted and represented through the genre of ethnography; new monographs used to chart innovations in the form. Prereq: jr st; Anthro 102(R).

354 Anthropology of Art. 3 cr. U/G.
Styles, techniques, and aesthetics of the arts of non-Western peoples; their relation to other aspects of culture, prehistoric and contemporary art in selected areas. Prereq: jr st; Anthro 102(R).

361 Applications in Linguistic Anthropology. 3 cr. U/G.
Advanced work in linguistic anthropology designed to give students applied skills in cross-linguistic studies. Prereq: jr st; Anthro 105(360)(P) or cons instr.

362 (effective 01/26/2009) System Failure: Globalization and Language Extinction. 3 cr. U/G.
Role of globalization in the projected extinction of a large number of the world's languages within the next century. Anthro 362 & Global 362 are jointly offered; they count as repeats of one another. Prereq: jr st; a course in social science; a course in linguistic anthro; or cons instr.

366 Seminar in Aspects of Linguistic Anthropology. 3 cr. U/G.
Investigations of selected topics in linguistic Anthropology, such as discourse analysis, pragmatics. Prereq: jr st; Anthro 360(P).

380 Anthropological Applications of GIS. 3 cr. U/G.
Use of GIS in archaeology, cultural anthropology, and physical anthropology. Prereq: jr st; a course in anthro.

400 Human Sociobiology. 3 cr. U/G.
Application of the principles of evolutionary theory and behavioral ecology to the social and cultural life of humans and other primates. Prereq: jr st; Anthro 101(R) or 102(R).

401 Primate Populations. 3 cr. U/G.
Ecological behavioral genetic and multidisciplinary field studies of nonhuman primates. Prereq: jr st; Anthro 301(P) or cons instr; grade of C or better in English 102(P) or score of 637 or higher on EPT.

402 Primate Evolution. 3 cr. U/G.
Evolution, adaptation, and distribution of living primates, including humans, comparative primate adaptations and skeletal anatomy. Evolutionary theory and its application to the primate fossil record. Prereq: jr st; Anthro 301(P) or cons instr.

403 The Human Skeleton. 3 cr. U/G.
Morphological and functional examination of the skeletal system. Microscopic and biomedical considerations of bone and cartilage, age, sex, and regional differences among modern human populations. Combined lec/lab. Prereq: jr st; Anthro 301(P) or cons instr.

404 Seminar in Human Evolutionary Physiology. 3 cr. U/G.
Evolutionary principles influencing human populations. Variation within and between human groups. Prereq: jr st; Anthro 301(P) or cons instr; grade of C or better in English 102(P) or score level 4 on EPT.

405 Forensic Anthropology. 3 cr. U/G.
Techniques in the forensic analysis of human skeletal material. Introduction to death investigation and forensic pathology. Prereq: jr st; Anthro 403(P).

406 Evolutionary Biology & Human Diseases. 3 cr. U/G.
Evolutionary principles applied to our understanding of infectious and chronic diseases common to human populations, both past and present. Prereq: jr st; Anthro 301(R), Bio Sci 100(R) or 150(R).

408 Hormones and Behavior. 3 cr. U/G.
Roles of hormones in evolution and expression of animal behaviors, particularly aggression, stress, mating, parenting, and cognition; emphasis on humans. Counts as repeat of Anthro 641 w/same topic. Prereq: jr st; intro course in physical anthro, bio sci, or psych.

411 Human Evolution. 3 cr. U/G.
Evolution from non-human primate ancestors to anatomically modern humans. Phylogenetic and functional aspects of the human fossil record. Ecological adaptation of ancestral humans. Prereq: jr st; Anthro 301(P) or cons instr.

425 Hunter-Gatherer Lifeways: Past and Present. 3 cr. U/G.
Cross-cultural comparisons of hunter-gatherer societies, including archaeological, ethnohistorical, and ethnographic approaches. Prereq: jr st; Anthro 102(P) or 103(P) or cons instr.

431 Urban Anthropology. 3 cr. U/G.
Cross-cultural study of urban systems and subsystems; theories of evolution of urban society; concepts and methods in the study of human adaptations to cities. Prereq: jr st; Anthro 102(R).

440 Medical Anthropology. 3 cr. U/G.
Comparative study of medical systems; cultural meaning of illness and the healing process; social origins of disease. Prereq: jr st; Anthro 102(P); grade of C or better in English 102(P) or score of 637 or higher on EPT.

441 Nature, Knowledge, and Technoscience in Anthropological Perspective. 3H cr. U/G.
Anthropological approaches to contemporary issues of science in society; critical perspectives on knowledge construction with respect to culture and indigenous traditions, race, class and gender. Prereq: jr. st

443 Medicine and Pharmaceuticals in the Global Age. 3 cr. U/G.
The practices of medicine and the distribution of pharmaceuticals globally. Anthro 443 & Global 443 are jointly offered; they count as repeats of one another. Prereq: jr st; Anthro 440(R).

445 Psychological Anthropology. 3 cr. U/G.
The relationship between individual and society; cultural influences on cognition, personality, identity, and emotion; and the comparative study of mental disorder. Prereq: jr st; Anthro 102(R).

446 The Child in Different Cultures. 3 cr. U/G.
Relationship of child development to particular cultural milieus; methods of child training in different cultures and their effects on the development of adult personality. Prereq: jr st; Anthro 102(R) or Psych 101(R) or Sociol 101(R).

447 The Global Politics of Human Rights. 3 cr. U/G.
Historical and theoretical context of human rights discourse; anthropology of human rights; case studies of efforts to protect human rights in particular social settings. Anthro 447 & Global 447 are jointly offered; they count as repeats of one another. Prereq: jr st; Anthro 102(R).

448 Cultural and Human Ecology. 3 cr. U/G.
Relationships of human societies to natural environments; energy systems involved in processes of human adaptation; ways in which culture and society operate as dynamic components of that exchange. Prereq: jr st; Anthro 102(R).

449 Economic Anthropology. 3 cr. U/G.
Uses and allocation of resources; modes of production and distribution and their relationship to kinship, politics, and other aspects of culture. Prereq: jr st.

450 Political Anthropology. 3 cr. U/G.
Political organization: forms of authority, responsibility, accountability, and power in societies at different levels of social complexity and in different ecological contexts. Prereq: jr st; Anthro 102(R).

460 Anthropological Theory. 3 cr. U/G.
Critical examination of the development and current status of the major paradigms and theories employed in anthropological studies. Prereq: sr st; Anthro 102(R).

465 Historic Preservation in Archaeology. 3 cr. U/G.
Historic preservation and cultural resource management in American archaeology; the legislative base, federal and state programs, the national register, regional planning, and research orientations. Prereq: jr st.

501 Archaeology of Death. 3 cr. U/G.
Archaeological study of mortuary behavior and osteology to understand cultural variability in social organization, disease, nutrition, and violence. Prereq: jr st; Anthro 103(P) or cons instr; grade of C or better in English 102(P) or score 637 or higher on EPT.

525 Zooarchaeology: Analysis of Faunal Remains. 3 cr. U/G.

Theory and method, including practical labs, in the analysis of animal remains from archaeological contexts. Prereq: jr st; Anthro 103(P) or cons instr.

540 Applications of Anthropology. 3 cr. U/G.
Uses of anthropological concepts, methods, and findings in human problems resulting from culture change. Prereq: jr st; Anthro 102(R).

543 Cross-Cultural Study of Religion. 3 cr. U/G.
Various approaches to the study of religion; religions of selected non-Western societies. Prereq: jr st; Anthro 102(R).

560 Introduction to Research Methods in Anthropology. 3 cr. U/G.
Problem and research design formulation. How to ask and answer scientific questions using methods and techniques common to all fields of anthropology. Prereq: jr st; Anthro 102(R).

561 Techniques and Problems in Ethnography. 3 cr. U/G.
Methods of fieldwork for cultural anthropologists; design of field studies; techniques for collection and analysis of field data; field projects. Prereq: jr st; Anthro 102(R).

562 Techniques and Problems in Archaeology. 3 cr. U/G.
Methods of fieldwork in archaeology; strategies of archaeological investigations; introduction to archaeological site mapping 2 hrs lec, 3 hrs lab Prereq: jr st; Anthro 103(P) or cons instr.

565 Seminar in Regional Archaeology: (Subtitled). 3 cr. U/G.
Seminar in archaeology of specific geographic areas. Consult Schedule of Classes for specific semester's content. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Anthro 103(P) or cons instr.

566 Archaeological Analysis and Report Preparation: (Subtitled). 3 or 6 cr. U/G.
Students will organize, describe, analyze, and interpret actual archaeological materials. Each student will assist in writing an archaeological report. Fee assessed according to nature and location of field trips. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Anthro 103(P) or cons instr.

567 Archaeological Field School. 3 or 6 cr. U/G.
Archaeological methods and techniques under field conditions, at one or more sites. Field work five days a week, evening lectures. Fee assessed according to nature and location of field school. Retakable to 9 cr max. Prereq: jr st; cons instr.

568 Introduction to Anthropological Statistics. 3 cr. U/G.
Statistical models and their basic assumptions; statistical inference in biological and cultural anthropology; probability theory; nonparametric and parametric methods. Prereq: jr st; Anthro 101(P) or 102(P) or 103(P) or cons instr.

636 Geochronology. 3 cr. U/G.
Theory and application of radiometric and other numerical dating methods in geology, archaeology, and paleoanthropology. Anthro 636 & Geo Sci 636 are jointly offered; they count as repeats of one another. Prereq: jr st & Anthro 101(P) or 103(P) or Geo Sci 100(P); or grad st.

641 Seminar in Anthropology: (Subtitled). 3 cr. U/G.
A research seminar in any of the several recognized areas of anthropology. Retakable w/chg in topic to 9 cr max. Prereq: jr st, Anthro 101(P) or 102(P) or 103(P); or grad st.

651 Biology of the Primates. 3 cr. U/G.
Gross and microscopic functional anatomy, molecular biology, distribution, adaptation, and behavior of living nonhuman primates as related to problems of human biology and human evolution. Prereq: sr st; Anthro 301(P) or cons instr.

701 Problems, Methods, and Techniques in Physical Anthropology. 3 cr. G.
Lectures and individual student projects concerning problems in physical anthropology and methods and techniques useful in their solutions. Prereq: grad st; Anthro 301(P) or cons instr.

705 Advanced Topics in Ethnography: (Subtitled). 3 cr. G.
Critical examination of peoples and cultures of selected areas of the world. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

720 (620) History and Theory of Museums. 3 cr. G.
History of the museum idea and its contemporary forms; educational, scientific, and changing uses of museums; museums and other institutions; museum professionalism and ethics. Prereq: grad st; cons instr.

721 (621) Administration and Organization of Museums. 3 cr. G.
Administration and organizational problems in modern museums; finances and budgets; legal-administrative problems; relations with support groups and volunteers, record keeping, management of museum projects. Prereq: grad st; cons instr; grade of B or better in Anthro 720(P).

722 Museum Exhibits. 3 cr. G.
Exhibit techniques and technology, philosophy and ethics of museum display, care of exhibit specimens; research use of exhibits. Practical assignments in exhibit design and installation. Prereq: grad st; cons instr; grade B or better in Anthro 721(P).

723 Museum Curation. 3 cr. G.
Practicum in the collection, organization, storage, care and scientific use of museum collections. Projects available in various specialties, dependent upon interest and special faculty arrangements. Prereq: grad st; cons instr; grade B or better in Anthro 721(P).

724 Internship in Museum Studies. 3 cr. G.
Supervised practical experience in museums arranged on an individual basis. Prereq: grad st; Anthro 720(P); cons instr.

740 Advanced Topics in Medical Anthropology: (Subtitled). 3 cr. G.
Selected problems in comparative study of health, illness, and health care systems. Retakable w/chg in topic to 9 cr max. Prereq: grad st; Anthro 440(R) or Sociol 331(R).

744 Theories of Social Action: Understanding Agency & Social Structure. 3 cr. G.
Seminar on theories of social action. Practice and performance theories and the structure vs. agency debate. Prereq: grad st.

761 Cross-Cultural Research: Problems in Comparative Method and Theory. 3 cr. G.
Systematic review of concepts, methods and selected findings in the area of comparative, largely cross-cultural, research in anthropology and related fields. Prereq: grad st.

762 Advanced Archaeological Analysis: (Subtitled). 3 cr. G.
Study and practice in major phases of archaeological analysis. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

763 Professionalism in Anthropology. 3 cr. G.
Skills needed to work in academia or an applied field; relevant to any of the four sub-fields or anthropology (archaeology, cultural, biological, or linguistic). Prereq: grad st.

768 Topics in Advanced Research Design in Anthropology. 3 cr. G.
Methods of fitting various models to qualitative categorizations of archaeological, ethnographical, and biological data. Includes chi-square and multiclassificatory chi-squares, scaling, cluster analysis, markov chains, and game theory. Prereq: grad st; Anthro 568(R).

797 Study Abroad: (Subtitled). 1-6 cr. G.
Allows graduate students to enroll in UWM sponsored program before course work level, content, and credits are determined and/or in specifically-prepared program course work. Retakable w/ chg in topic. Prereq: grad st; acceptance in Study Abroad Prog.

801 A Survey of Physical Anthropology. 3 cr. G.
Reviews biological principles essential to an understanding of evolution. Reviews fields central to physical anthropology and human evolution: primatology, paleontology, anatomy, human genetics, population genetics. Prereq: grad st.

802 Perspectives on Prehistory. 3 cr. G.
Surveys current theoretical and methodological concepts in archaeology, and their application to specific research

problems. Readings include studies from both the old and new worlds. Prereq: grad st.

803 Survey of Cultural Anthropology. 3 cr. G.
A survey of major theoretical and methodological issues central to cultural anthropology. Prereq: grad st.

804 Linguistic Anthropology. 3 cr. G.
A survey of major theoretical and methodological issues central to cultural anthropology. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr will be assessed. Prereq: grad st.

920 Advanced Seminar in Museological Problems. 3 cr. G.
Use of museum collections/museums to examine museum work regarding legal considerations, ethics, documentation; use of collections to test theories and develop conceptual exhibits. Prereq: grad st; Anthro 720(P).

940 Seminar in Problems in Cultural Anthropology: (Subtitled). 3 cr. G.
Content varies. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

942 Seminar in Prehistory and Archaeology: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

950 Seminar in Problems in Physical Anthropology: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

969 Seminar in Linguistic Anthropology: 3 cr. G.
Advanced topics in the anthropological study of language. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

990 Research and Thesis. 1-3 cr. G.
- Prereq: grad st; writ cons instr; writ cons dept chair.

999 Advanced Independent Study. 1-3 cr. G.
- Retakable to 6 cr max. Prereq: grad st; writ cons instr.

ARCHITECTURE

- Phone: (414) 229-4015
- Fax: (414) 229-6976
- E-mail: jsinger@uwm.edu

School/College: School of Architecture and Urban Planning

Degrees Conferred:

- Master of Architecture
- PhD in Architecture

Overview

The Department of Architecture offers programs of study designed to prepare students for professional practice and for careers in architectural consulting, research and teaching.

M Arch Program

The Master of Architecture, the first professional degree offered by the Department of Architecture, is accredited by the National Architectural Accrediting Board (NAAB). The degree program requires 2 or 3-1/2 years of graduate study, depending on the applicant's previous academic background and qualifications. It offers a wide range of courses, with particular strengths in the areas of building design, environmental design research, and urban design and development.

The Master of Architecture curriculum emphasizes studio courses. Each of these studios is taught by faculty members who also offer courses in selective subjects.

A foreign studies program allows students to combine foreign travel and study under the tutelage of a departmental faculty member for program credit. The location of the program may vary from year to year. Additional costs of travel, lodging, etc., must be borne by the student.

In the United States, most state regulation boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit US professional degree programs in architecture, recognizes two types of degrees: the Bachelor of Architecture and the Master of Architecture. A program may be granted a five-year, three-year, or two-year term of accreditation, depending on its degree of conformance with educational standards.

Master's degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree, which, when earned sequentially, comprise an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

PhD Program

The Department offers a program of advanced study in environmental design research leading to the PhD degree in Architecture. Environmental design research is a multidisciplinary field devoted to research on the mutual interactions of the physical environment at all scales and socio-cultural behavior at all levels of analysis, with applications to architectural design, urban design and planning, and environmental policy. The PhD program is appropriate for persons who wish to study environmental issues from a multidisciplinary research perspective, and who seek research, consulting, or academic careers in architecture or any of the environmental professions or allied fields.

M Arch/MUP Program

In cooperation with the Department of Urban Planning, the Department of Architecture offers a Master of Architecture/Master of Urban Planning program that prepares students for careers requiring preparation in both fields. Both the M Arch and MUP degrees are awarded simultaneously upon completion of this 84-credit program. For more detailed information on this program see Credits and Courses section below.

Certificate in Preservation Studies

A certificate program in Preservation Studies is available to Master of Architecture students who wish to pursue careers in historic preservation in professional architectural practice or in government preservation agencies.

The certificate program is designed to provide such students with a solid background in the political, social, legal and economic aspects of preservation and the development of research skills for examining the history as well as the fabric of older and historic buildings. Design and construction considerations for the adaptive use of historically and architecturally significant structures are emphasized in the coursework.

Certificate in Real Estate Development

The Certificate in Real Estate Development is designed to provide a formal program of studies for Master of Architecture or Master of Urban Planning students who wish to pursue careers in real estate development in combination with professional architectural practice or work with a private or public developer. For more information, see Certificate section below.

Additional Notes

Students enrolling in Architecture courses are required to be part of a computer requirement known as e3, which requires that students pay a fee or additional tuition beyond the base tuition charged by UWM. For further information about the computer policy in our program, please visit the following Web site: www.uwm.edu/e3/ or contact the SARUP Student Advising Office.

Individuals seeking to use the School's Shop must first provide evidence of personal accident and health insurance to the Dean's office. Since no accident or health insurance is provided to any user by the University, access to this resource will be prohibited to uninsured individuals.

Graduate Faculty

Professors

Ahrentzen, Sherry, Ph.D., University of California-Irvine
Cohen, Uriel, D. Arch., University of Michigan
Greenstreet, Robert, Ph.D., Oxford Brookes University
Hanlon, Don, M. Arch., University of Washington
Hubka, Thomas C., M. Arch., University of Oregon
Keane, Mark, M.Arch, University of Illinois-Champaign/Urbana
Ollswang, Jeffrey, M. Sc., University of Strathclyde
Rabinowitz, Harvey, M. Arch., Rensselaer Polytechnic Institute
Van Oudenallen, Harry, M. Arch., University of Oregon
Weisman, Gerald. Ph.D., University of Michigan
Witzling, Larry, Ph.D., Cornell University

Associate Professors

Forseth, Kevin, M. Arch., University of Wisconsin-Milwaukee
Hubbard, Nancy, Ph.D., Northwestern University
Isaacs, Raymond, Ph.D., University of California-Berkeley
Krause, Linda, Ph.D., Yale University
La, Grace E., M.Arch., Harvard Graduate School of Design
Schermer, Brian, Ph.D., University of Michigan
Shields, James W., M. Arch., University of Wisconsin-Milwaukee
Snyder, Gil S., M. Arch., Columbia University
Stagg, Josef, D. Arch., University of Michigan
Talbott, Kyle, M.Arch., Texas A&M University
Utzinger, Michael, M.S., University of Wisconsin-Madison
Wasley, James H., M.Arch., Rice University

Wishne, Brian, M. Arch., Princeton University, Chair

Assistant Professors

Cornelius, Chris T., M.Arch., University of Virginia

Sen, Arijit, Ph.D., University of California-Berkeley

Sobti, Manu, Ph.D., Georgia Institute of Technology

Master of Architecture

Admission to 2-Year Program

An applicant with an undergraduate major in architecture from UWM or a school with an accredited program in architecture similar to the BS in Architectural Studies at UWM must meet Graduate School requirements plus these Department of Architecture requirements to be considered for admission to the program:

- Undergraduate cumulative grade point average in architectural studies of at least 3.0 (4.0 scale).
- Completion of at least five undergraduate design studios.
- Three letters of recommendation from three previous faculty and/or members of the profession.
- Submission of test results from the General Test portion of Graduate Record Examination.
- Portfolio of architectural studies work.
- For foreign applicants whose first language is not English, a score of at least 250 on the computer-based (or 600 on the paper based) Test of English as a Foreign Language (TOEFL). A score of 7.0 on the International English Language Testing System (IELTS) examination will be accepted in lieu of the TOEFL. Applicants with scores from 213 to 247 on the computer-based TOEFL (or 550 to 599 on the paper-based), or 6.5 on the IELTS, will be considered for admission with the stipulation that further course work in English be taken.

Admission to 3-1/2 Year Program

An applicant with an undergraduate degree in a field other than architecture may be considered for admission with an additional 41 credits required; these credits do not count toward the degree. An applicant with a non-architecture major is normally admitted with three semesters of foundation courses (41 credits) required, subject to re-evaluation after the first semester.

Admission to the 3-1/2 year program requires, in addition to general Graduate School requirements, an undergraduate GPA of at least 3.0 (4.0 scale), submission of test results from the General Test portion of the Graduate Record Examination (and TOEFL or IELTS, for foreign students), three letters of recommendation, and a portfolio of written and/or visual work.

Admission to M Arch/MUP Program

Candidates seeking admission to the M Arch/MUP program must apply to and be admitted to both programs. The requirements for admission to the Urban Planning Master's degree program are detailed in the Urban Planning section of this Bulletin.

Major Professor as Advisor

The student must have a professor to advise and supervise the student's studies as specified in Graduate School regulations.

Credits and Courses - 2-Year Program

The minimum degree requirement is 60 graduate credits, 48 of which must be in architecture, with a distribution of at least 39 credits in the following four categories:

Technology (9 Credits)
- Arch 510
- Arch 516
- Arch 520 or 522

Theory (6 Credits)
- Arch 531 or 532 or 533
- One additional course

Practice (6 Credits)
- Arch 581
- One additional course

Design (18 Credits)
- Arch 825*
- Two additional studios*
- *One of the additional studios must be at the 800 level. A minimum grade of "B" (3.00) in each studio is required.

A current list of specific courses approved for distribution credit is available from the Department. Students who have completed any of these courses or their equivalents as undergraduates may substitute architectural electives. This distribution requirement must be met and Arch 794, Pre-Thesis or Master's Project Seminar, must be completed prior to enrollment in the required 6 cr. of Arch 890 or 891, Master's Thesis or Master's Project. At least 18 of the 48 required credits must be completed at the 700 level or above.

*Credits and Courses - 3-1/2 Year Program**

The entry requirements totaling 41 cr. are as follows:

- ARCH 300 Architectural History and Theory
- ARCH 301 Architectural Structures & Construction
- ARCH 302 Architecture and Human Behavior
- ARCH 303 Architecture and Environmental Response
- ARCH 580 Graphic Techniques for Architects
- ARCH 781 Virtual Modeling
- ARCH 800 Graduate Introductory Studio
- ARCH 810 Architectural Design I
- ARCH 820 Architectural Design II
- One ARCH design studio at 600 or 800-level with minimum grade of B

* Consult Student Advising Office for sequencing of courses, (414) 229-4015

Some of these requirements may be waived by the M Arch Committee upon an applicant's acceptance to the program or upon appeal, based on equivalent work. The requirements in the remaining two years are those of the 2-year program, as described above.

M Arch/MUP Program

Joint program candidates must complete all of the requirements of the M Arch degree and the requirements stipulated by the Department of Urban Planning. The Urban Planning Master's program is detailed in the Urban Planning section of this Bulletin.

Thesis or Master's Project

The student must submit an acceptable thesis or master's project and orally defend it. The student in the M Arch/MUP program must also take and pass the comprehensive exam in Urban Planning.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Certificate in Preservation Studies

The Certificate in Preservation Studies is designed to provide a formal program of studies for Master of Architecture students who wish to pursue careers in historic preservation in professional architectural practice or in governmental preservation agencies.

Students wishing to earn the Certificate must be enrolled in the Master of Architecture program at the University and must complete a minimum of 21 credits from the following groups of courses:

Preservation Core Required Courses (12 credits)
- Arch 560 Introduction to Historic Preservation
- Arch 760 History of Building Technology
- Arch 835 Studies in Architectural History and Precedent: Historic Preservation

Preservation Master's Thesis or Master's Project (6 credits)
- Arch 890 Master's Thesis
- Arch 891 Master's Project

Preservation Elective Course (3 credits)
- Arch 790 Special Topics in Preservation

- Arch 531 Historic Concepts of Architecture
- Arch 553 Vernacular Buildings and Groupings
- Arch 561 Measured Drawings for Architects
- Arch 562 Preservation Technology Laboratory
- Arch 780 The Built Environment and Real Estate Development
- ArtHist 459 American Architecture
- ArtHist 461 Early Modern Architecture in the Midwest
- ArtHist 462 Frank Lloyd Wright
- ArtHist 701 Colloquium in Architectural History
- Hist 450 Growth of Metropolitan Milwaukee
- Hist 451 History of Wisconsin
- Hist 651 Introduction to Material Culture in Historical Agencies
- Hist 700 Introduction to Public History
- Hist 713 Historical Research Methods

Students wishing to obtain the Certificate must declare their intention by applying to the Department of Architecture prior to completion of the three Preservation Core Required Courses. After completing the program requirements, a Certificate in Preservation Studies will be awarded by the Department of Architecture simultaneously with the award of the Master of Architecture degree.

Certificate in Real Estate Development

Students wishing to earn the Certificate must be enrolled in the Master of Architecture or Master's of Urban Planning program at the University and must complete a minimum of 21 credits from the following groups of courses.

Real Estate Required Core Courses (15 credits)

- Arch 780 The Built Environment and Real Estate Development, 3 cr
- Arch 794 (M Arch. students) Pre-thesis or Master's Project Seminar, emphasis on Real Estate Development, 3 cr or UrbPlan 999 (MUP students) Independent Study, emphasis on Real Estate Development, 3 cr
- Arch 890 or 891 (M Arch. students) Thesis or Master's Project, emphasis on Real Estate Development, 6 cr or UrbPlan 990 (MUP students) Graduate Thesis, emphasis on Real Estate Development, 6 cr
- Bus 483 Property Development and Management, 3 cr or Bus 481 Real Estate Finance, 3 cr

Real Estate Electives (6 credits)

- Arch 560 Introduction to Historic Preservation
- Arch 845 Studies in Urban and Community Design theory (6 credits)
- Arch 749 Urban Design as Public Policy
- Arch 792 Independent study (Internship)
- UrbPlan 651 Land Use Planning Practice
- UrbPlan 661 Neighborhood Planning and Revitalization
- UrbPlan 684 Planning Local Economic Development
- UrbPlan 762 Housing Markets and Public Policy
- UrbPlan 991 Internship (real estate focus)
- UrbStd 720 Theory and Method in Local Economic Development

Doctor of Philosophy in Architecture

Admission

The PhD program seeks to maintain a rich and diverse mix of students and thus encourages applicants with backgrounds in architecture, allied design fields, and/or the social and behavioral sciences. Likewise, the program is open to applicants holding undergraduate as well as graduate degrees. It is most important that applicants have a strong commitment to the conduct of advanced architectural research, building upon the concepts and theories of environmental design research.

Applicants must meet Graduate School requirements and one of these departmental requirements to be eligible for consideration for admission to the program:

1. A professional B Arch or M Arch degree in Architecture or a master's degree in a related environmental professional field.
2. A master's degree in any field and significant experience in the practice, research or teaching of Architecture or related professional fields.
3. A bachelor's degree in any other field. Holders of such degrees will be advanced to full doctoral student status after they have completed some pre-doctoral preparation in research methods, environmental design research, and/or architectural design and communication, consonant with their own program of study.

In addition, applicants must submit test results from the General Test portion of the Graduate Record Examination. For foreign applicants, whose first language is not English, a score of at least 250 on the computer-based (or 600 on the paper-based) Test of English as a Foreign Language (TOEFL) is required. A score of 7.0 on the International English Language Testing Systems (IELTS) examination will be accepted in lieu of the TOEFL.

Reapplication

A student who has received a master's degree in Architecture or in Urban Planning from the University of Wisconsin-Milwaukee must formally reapply for admission to the Graduate School before continuing studies toward the PhD degree.

Major Professor as Advisor

Upon admission, each student is assigned an advisor, usually the Chair of the PhD Program Committee. In the first year, each student defines an area of specialization within the major field of environmental design research and a minor area of studies in two or more disciplines outside the major. Each student selects Major and Minor Professors to advise and supervise course work and independent readings in preparation for the area of specialization examination and completion of minor requirements. Upon admission to candidacy, each student defines a dissertation topic and selects a Major Professor as Dissertation Chair. Selection of the area of specialization and dissertation topic and of the Major and Minor Professors and Dissertation Chair is subject to approval by the PhD Program Committee.

Course of Study

The program is structured in three stages:

1. Completion of a minimum of one year of formal course work (4 required core courses in theory, environmental design research, research methods, and data analysis), an intermediate research project (including 3-6 credits of Arch 991), and the minimum residence requirement of 27 graduate credits subsequent to attaining full doctoral student status and 54 graduate credits beyond the baccalaureate degree.
2. Completion of the major area of specialization (minimum of 12 graduate credits, including a maximum of 3 credits in Arch 992) and of the minor area of study (minimum of 9 graduate credits in two or more disciplines outside the major), and passing doctoral preliminary examinations in environmental design research and the area of specialization.
3. Completion of a research dissertation that makes an original contribution to the field.

Depending on background preparation and amount of time spent in full-time residency, students should be able to complete the degree in approximately four to six years. Individual timetables will vary depending upon background preparation and time spent in full-time residency.

For more information on these requirements, please consult the Department of Architecture PhD Policies and Procedures Handbook.

Foreign Language Requirement

A foreign language requirement is optional, depending upon the recommendation of the

student's Major Professor and the PhD Program Committee.

Residence

The student must meet minimum Graduate School residence requirements.

Doctoral Preliminary Examinations

The student must pass doctoral preliminary examinations to qualify for formal admission to candidacy for the degree. The examinations are comprised of three parts, which may be taken at the same or different times:

1. A general comprehensive examination in environmental design research.
2. An examination of the student's major area of concentration.
3. An examination of the minor field of study.

For more information on these examinations, consult the Department of Architecture PhD Policies and Procedures Handbook.

Candidacy

The student is officially admitted to candidacy for the PhD degree after completing the residence requirement, core courses and intermediate research project, completing the courses in the area of specialization and minor field, and passing the three doctoral preliminary examinations (and language examination, if required) to the satisfaction of the PhD Program Committee.

Dissertation

The candidate must design, conduct, and write a research dissertation which demonstrates ability to formulate a research topic and pursue independent and original research that makes a contribution to the field. Selection of the dissertation topic, Dissertation Chair, and Dissertation Committee is subject to approval of the PhD Program Committee.

Dissertation Defense

The candidate must, as the final step toward the degree, pass an oral examination in defense of the dissertation. For more information on the dissertation defense, consult the Department of Architecture PhD Policies and Procedures Handbook.

Continuation

For further information about departmental policies in the PhD program, please consult the Department of Architecture PhD Policies and Procedures Handbook.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

For additional information on Graduate School PhD requirements, see the Doctor of Philosophy Degree Requirements.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

300 Architectural History and Theory. 3 cr. U/G.
Introduction to architectural history and its theoretical base. The course covers classical architecture to the present, focusing on the theories underlying architecture of a period. Prereq: jr st & acceptance to level 2 or arch studies minor; or grad st.

301 Architectural Structures & Construction. 3 cr. U/G.
The behavior of structures, structural materials and planning, and the construction of buildings. Prereq: jr st & acceptance to level 2 or arch studies minor & Arch 210; or grad st.

302 Architecture and Human Behavior. 3 cr. U/G.
Introduction to behavioral, social and cultural factors and their implications for the design and planning of the built environment. Prereq: jr st & acceptance to level 2 or arch studies minor; or grad st.

303 Architecture and Environmental Response. 3 cr. U/G.
Investigation of environmental control and life safety requirements and their implications on architectural form and design. Prereq: jr st, acceptance to Level 2 or arch studies minor & Arch 210(P); or grad st.

326 Energy Design Fundamentals. 3 cr. U/G.
Energy-related issues as they apply to site planning and architectural design, including thermal comfort, site climate analysis, building thermal response, and solar system design. Prereq: jr st; acceptance to Level 2 or arch studies minor & Arch 301(P); or grad st.

330 Design Methodology. 3 cr. U/G.
Survey of the different methods and techniques used to solve problems encountered in architectural design. Prereq: jr st, acceptance to Level 2 or arch studies minor & Arch 300(P); or grad st.

331 Design Theory. 3 cr. U/G.
Study of the major theoretical approaches to architectural design. Prereq: jr st; Arch 300(P).

340 Urban Design. 3 cr. U/G.
Survey of urban design, including the study of precedents, recent philosophy, design vocabulary, behavioral responses, and implementation strategies. Prereq: jr st; acceptance to Level 2 or arch studies minor & Arch 300(P); or grad st.

380 Drawing in Architecture. 3 cr. U/G.
Visual communication skills are developed in relation to basic design theory and architectural design process. Prereq: jr st & acceptance to level 2 or arch studies minor; or grad st.

382 Computers in Architecture. 3 cr. U/G.
Computer graphics lab course utilizing AUTOCAD and other programs. Prereq: jr st & acceptance to level 2 or arch studies minor; or grad st.

383 Landscape Architecture. 3 cr. U/G.
Introduction to the history of landscape architecture as well as the process of contemporary landscape architecture and its relationship to contemporary architecture. Prereq: jr st & acceptance to level 2 or arch studies minor; or grad st.

501 Survey of Architectural Engineering Theories. 3 cr. U/G.
Investigation of the scientific basis of architectural engineering technologies relevant to professional practice, including theories, applications and new technologies. Prereq: sr st; Arch 301(P).

510 Survey of Structural Analysis and Design. 3 cr. U/G.
Statics, strength of materials and analysis of simple structural elements and systems. Design and economics of simple building structures. Prereq: sr st & Arch 301(P); or grad st.

516 Building Construction. 3 cr. U/G.
Review and analysis of architectural construction systems in relation to building projects of various scales. Construction techniques and contract documentation are covered. Prereq: sr st; Arch 301(P); or grad st.

520 Environmental Systems: Illumination and Thermal Comfort. 3 cr. U/G.
The impact of visual and thermal comfort requirements on the design of building enclosures, lighting systems and HVAC systems. Prereq: sr st, Arch 301(P) & 303(P); or grad st.

521 Environmental Systems: Resources-Fluid Distribution Systems. 3 cr. U/G.
Water resources supplies and treatment, distribution and disposal systems. Atmospheric and thermal comfort. Air treatment, distribution systems, and related energy systems for human comfort. Prereq: sr st & Arch 303(P); or grad st.

522 Environmental Systems: Lighting and Acoustical Design. 3 cr. U/G.
The development and application of visual/auditory comfort criteria, lighting and acoustical design, and their architectural design implications. Prereq: sr st & Arch 303(P); or grad st.

531 Historic Concepts of Architecture. 3 cr. U/G.
Examination of concepts and theories of architecture and urban design before the modern movement; includes typological, formal, technological and philosophical

analysis. Prereq: sr st; Arch 300(P); or grad st.

532 Modern Concepts of Architecture. 3 cr. U/G.
Examination of concepts and theories of architecture and urban design since the modern movement; includes typological, formal, technological and philosophical analysis. Prereq: sr st & Arch 300(P); or grad st.

533 Topics in Architectural Theory: (Subtitled). 3 cr. U/G.
This variable content course will focus on the study of a particular architectural theory or the work of an individual architect and its theoretical base. Retakeable with change in topic to max of 6 cr. Prereq: sr st & Arch 300(P) or grad st.

534 Field Study: (Subtitled). 3 cr. U/G.
Theoretical developments and their historical contexts are explored in a particular setting. Focus and setting are announced in advance. Retakeable with change in topic to max of 6 cr. Prereq: jr st; Arch 300(P).

535 Pattern Language. 3 cr. U/G.
Examination of the work of Christopher Alexander and the Center of Environmental Structure seeking to develop a design theory sensitive to context, user, and form. Prereq: sr st & Arch 300(P); or grad st.

550 Seminar in Building Types and Settings. 3 cr. U/G.
Development and usage of various building types and settings based upon social, behavioral, political, and economic factors. Prereq: sr st, & Arch 300(P) or 302(P), or cons instr.

551 American Vernacular Architecture. 3 cr. U/G.
Introductory seminar on the historical development of all forms of vernacular and popular architecture. Buildings are analyzed in detail within their cultural contexts. Prereq: sr st & Arch 300(P).

553 Vernacular Buildings and Groupings. 3 cr. U/G.
Study of the patterns and characteristics of human settlements and individual structures built according to local traditions. Prereq: sr st & Arch 302(P); or grad st.

557 Behavioral Factors in Housing Design. 3 cr. U/G.
Review of behavioral, social, and cultural factors in housing design. Discussion of findings and their impact on design. Prereq: sr st & Arch 302(P) or cons instr; or grad st.

559 Aging and the Environment. 3 cr. U/G.
Seminar on aging, human services, and the built environment. Implications for policy, planning, and design. Special attention to urban planning, urban design, housing, and clinical facilities. Prereq: sr st; Arch 302 or cons instr.

560 Introduction to Historic Preservation. 3 cr. U/G.
Research, discussion and case study development to explore political, social/historical, economic and design/restoration issues of preservation and adaptive use of buildings. Prereq: sr st & Arch 300(P); or grad st.

561 Measured Drawing for Architects. 3 cr. U/G.
History and theory of measured drawings, field measuring and recording techniques, and production of drawings based on procedures of the Historic American Building Survey. Prereq: sr st & Arch 301(P); or grad st.

562 Preservation Technology Laboratory. 3 cr. U/G.
Laboratory focusing on the historic preservation of architectural detail. Students will examine historic technologies, write papers on them, and execute them in detail. Prereq: sr st & Arch 301(P); or grad st.

580 Graphic Techniques for Architects. 3 cr. U/G.
Architectural presentation techniques focusing on the application of various graphic media including color pencil, pastel, watercolor, marker, and air-brush. Enrollment priority given to new 3 1/2 year M.Arch students. Prereq: sr st & acceptance to level 2; or grad st.

581 Law and Professional Practice for Architects. 3 cr. U/G.
An introduction to architectural practice; content includes office procedures, contract management, legal constraints. Prereq: sr st & acceptance to level 2 or arch studies minor; or grad st.

582 Advanced Computer Applications in Architecture. 3 cr. U/G.
Advanced applications of computer-aided design (CAD) to architectural design and practice. Study of graphic database, database management and CAD systems programming. Prereq: sr st & acceptance to level 2 or arch studies minor; or grad st.

584 Urban Landscape Architecture. 3 cr. U/G.
Study of historic and contemporary exterior urban space, urban site planning methodology; design and detailing of exterior urban space; pedestrian and vehicular movement; use of plant materials. Prereq: sr st & acceptance to level 2 or arch studies minor; or grad st.

585 Research Methods in Architecture. 3 cr. U/G.
Review of quantitative and qualitative research procedures, instruments, and data analysis techniques for use in professional design applications and architectural research. Prereq: sr st & Arch 302(C); or grad st.

586 Programming for Architectural Design. 3 cr. U/G.
Analysis and development of architectural programs: goals, user requirements, socio-cultural determinants, design criteria, site selection and analysis, building type analysis, code analysis, and cost projections. Prereq: sr st & Arch 302(P); or grad st.

587 Post-Occupancy Evaluation of Built Environments. 3 cr. U/G.
Evaluation of built environments: technical, functional, and socio-behavioral factors; design of post-occupancy evaluation studies and instruments; and analysis of a built environment. Prereq: sr st & Arch 302(P); or grad st.

692 Foreign Studies Studio: (Subtitled). 6 cr. U/G.
Design fieldwork in foreign setting stressing historical context, site analysis, urban design and theoretical issues. Thematic focus determined by faculty directing program. Not retakeable for cr. Prereq: jr st; Arch 410(P) or cons dept chair.

716 Art of Detailing. 3 cr. G.
Seminar/workshop dealing with creative aspects of architectural construction technology. Building details are analyzed with respect to technical appropriateness, durability, context and design consequences. Prereq: grad st; Arch 516(P) & 1 600 or above level studio; Arch 501(R) or 510(R).

722 Daylighting and Architectural Design. 3 cr. G.
Study of the relationships between architectural design, illumination, visual tasks, energy conservation and daylighting design. Prereq: grad st; Arch 520 or 522 or cons instr.

723 Fundamentals of Ecological Architecture. 3 cr. G.
Investigation of the ecological issues affecting an architectural design process that aims to produce buildings, landscapes and cities with minimal demands on the environment. Prereq: grad st. Counts as repeat of ARCH 790 with same title.

734 Readings in Contemporary Architectural Theory and Criticism. 3 cr. G.
Examination of contemporary theory and criticism, particularly as developed both in architecture and other humanistic disciplines such as philosophy, literature, and art. Prereq: grad st & Arch 531(P) or 532(P).

741 Behavioral Factors in Urban Design. 3 cr. G.
Review of current environment-behavior research on urban form. Discussion of findings and their implications for urban design. Prereq: grad st; Arch 302 or cons instr, cons instr for 6 cr.

749 Urban Design as Public Policy. 3 cr. G.
Orients students in urban planning to urban design problems as matters of public policy with focus on the analysis and

implementation of urban design proposals rather than on the techniques used to generate such proposals. Not open to students who have cr in UrbPlan 857 which is identical to Arch 749. Prereq: grad st.

750 Proseminar in Environment Design Research. 3 cr. G.
Intensive review of important findings in environmental design from research and professional literature and analysis of impacts on the built environment. Prereq: grad st; Arch 585(C), or cons instr.

751 Theories of Environment Design Research. 3 cr. G.
Systematic review and critique of the major concepts, models, and theories of environmental design; their adequacy relative to current data; needed tests; applicability to environmental policy, planning, and design. Prereq: grad st; Arch 750(P); UrbPlan 740(P)or equiv; or cons instr.

755 Third World Design. 3 cr. G.
Seminar in community and housing design for the third world. Ethnographic, anthropological, and environment-behavior research is used to establish a rationale for individual conceptual design proposals. Prereq: grad st; Arch 302 or cons instr.

760 History of Building Technology. 3 cr. G.
An examination of evolving technology in architecture from antiquity to the mid-twentieth century, concentrating on examples in the united states; includes field trips. Prereq: grad st; Arch 300.

780 The Built Environment and Real Estate Development. 3 cr. G.
A course providing an understanding of the relationships between economics and architectural design and skills in manipulation of variables in both areas on real projects. Prereq: grad st.

781 Virtual Modeling. 2 cr. G.
Modeling, rendering and other digital methods used in architectural design. Prereq: grad st & Arch 810(C).

785 Advanced Research Methods in Architecture. 3 cr. G.
Advanced treatment of existing and emerging qualitative and quantitative research and analysis methods, including research designs, scholarly, structural, field, survey, experimental and multivariate methods. Prereq: grad st; Arch 585; UrbPlan 740 or equiv or cons instr.

788 (effective 01/26/2009) Green Building Seminar. 3 cr. G.
Investigation and research into the environmental and architectural opportunities and constraints of building and landscape materials. Prereq: grad st. Counts as repeat of ARCH 790 with same title.

790 Special Topics: (Subtitled). 1-3 cr. G.
Development and presentation of new material on an experimental, one-term basis. Specific cr & any additional prereqs announced in schedule of classes whenever course is offered. Retakeable with change in topic to max of 9 cr. Prereq: grad st.

791 Master's Level Directed Research. 1-3 cr. G.
Student participation in research projects under faculty supervision. Retakable to 3 cr max. Prereq: grad st; cons instr.

792 Master's Level Independent Studies and Research. 1-3 cr. G.
Independent investigation of issues related to architecture. Retakable to 3 cr max. Prereq: grad st; cons instr.

794 Pre-Thesis or Master's Project Seminar. 3 cr. G.
Topic identification and background preparation to be completed by the end of the term preceding thesis or master's project. Prereq: grad st; eligibility for thesis or master's project next semester.

797 Study Abroad: (Subtitled). 3-12 cr. G.
Studio and/or field study designed to provide relevant course work for a study abroad program in architecture. Retakable to 12 cr max w/chg in topic. Prereq: grad st; acceptance to Study Abroad Program.

800 Graduate Introductory Studio. 6 cr. G.
Introductory studio experience for entering graduate students emphasizing visual and technical skill development. Projects focus on basic design concepts and architectural design theory. Course will not count toward doctoral program requirements. Prereq: grad st.

810 Architectural Design I. 6 cr. G.
This design studio introduces students to theories and methodologies of architectural design. Design projects explore various design procedures, graphic techniques, and building tectonics. Prereq: grad st.

815 Studies in Architectural Technology and Theory: (Subtitled). 6 cr. G.
This design studio emphasizes technology and analytical theories and methods. Retakeable with change in topic to max of 12 cr. Prereq: grad st.

820 Architectural Design II. 6 cr. G.
This design studio further develops the theories and methodologies of architectural design. Design projects emphasize specific issues of theory, structure, context, program, and graphic communication. Prereq: grad st; Arch 810(P).

825 Comprehensive Design Studio: (Subtitled). 6 cr. G.
Advanced design studio emphasizing schematic design to detailed development of programmatic spaces, structural and environmental systems, life-safety provisions, wall sections, and building materials and assemblies. Retakeable w/ chg in topic to 12 cr max. Prereq: grad st & Arch 516(C).

833 Chicago Design Critic Studio. 6 cr. G.
Advanced design studio directed by an eminent Chicago architect. Specific content is announced in advance. Prereq: grad st.

834 Distinguished Visiting Design Critic Studio. 6 cr. G.
Advanced design studio directed by a nationally or internationally known architect. Specific content is announced in advance. Prereq: grad st.

835 Studies in Architectural History and Precedent: (Subtitled). 6 cr. G.
This design studio emphasizes precedent analysis, historical analysis and historical preservation theories and methods. Retakeable with change in topic to max of 12 cr. Prereq: grad st.

836 Studies in Form and Composition: (Subtitled). 6 cr. G.
This design studio emphasizes formal compositional theories and methods. Retakeable with change in topic to max of 12 cr. Prereq: grad st.

837 Competitions Studio. 6 cr. G.
Advanced design studio utilizing architectural competitions to focus on concept development, technical competence and graphic presentation. Prereq: grad st.

845 Studies in Urban and Community Design Theory: (Subtitled). 6 cr. G.
This design studio emphasizes urban and community design theories and methods. Retakeable with change in topic to max of 12 cr. Prereq: grad st.

855 Studies in Social and Critical Theory: (Subtitled). 6 cr. G.
This design studio emphasizes social and critical theories and methods. Retakeable with change in topic to max of 12 cr. Prereq: grad st.

875 Studies in Facility Planning and Design: (Subtitled). 6 cr. G.
This design studio emphasizes facility planning and design theories and methods. Retakeable with change in topic to max of 12 cr. Prereq: grad st.

885 Studies in Building Typology: (Subtitled). 6 cr. G.
This studio emphasizes the relationship among building use, formal pattern, and institutional history. Retakeable with change in topic to max of 12 cr. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirements. Prereq: grad st

890 Masters Thesis. 1-9 cr. G.
Individualized study under supervision of a faculty committee selected by student. See graduate school guidelines for thesis preparation. May be repeated to max of 9 cr. Prereq: grad st; cons advisor; cons chair if taken before final semester.

891 Master's Project. 1-9 cr. G.
Individualized study under supervision of a faculty committee selected by student. Student is responsible for identifying subject and conducting study to committee's satisfaction. May be retaken to

max of 9 cr. Prereq: grad st; cons advisor; cons chair if taken before final semester.

990 Doctoral Dissertation. 1-12 cr. G.
Research toward the completion of the PhD dissertation under the direction of the candidate's dissertation chair and committee. May be retaken. Prereq: grad st; admis to candidacy for the PhD; & cons PhD prog comm.

991 Doctoral Level Research. 1-3 cr. G.
Research work for doctoral students in Architecture. Retakable to 12 cr max. Prereq: grad st; cons instr

992 Doctoral Level Independent Work. 1-3 cr. G.
Independent study on topics selected in agreement with supervising professor. Retakable to 12 cr max. Prereq: grad st; cons instr

ART

- Phone: (414) 229-6053
- Fax: (414) 229-2973
- E-mail: artgrado@uwm.edu

School/College: Milton and Lillian Peck School of the Arts

Degrees Conferred:

- MA
- MFA in Art
- MS in Art Education

Overview

The Department of Visual Art offers graduate programs of study in art and art education. Fields of concentration are available in the following studio arts areas: Ceramics, Graphic Design, Painting and Drawing, Fibers, Photography, Printmaking, Sculpture, Jewelry/Metalsmithing, and InterMedia.

The Master of Arts in Art is a 30-credit program with advanced study and concentration in one or more areas of studio art work. It is designed for the student who desires graduate training as a professional artist. The student's plan of studies is tailored according to whether or not that person expects to continue formal studies in the Master of Fine Arts program.

The Master of Fine Arts in Art is a 30- credit program of concentrated study beyond a Master of Science or a Master of Arts degree. It is designed for the student who desires further graduate training as a professional artist or training as a teacher-artist in art schools and universities.

The Master of Science in Art Education is a 30-credit program with advanced work in both studio art and art education. It is designed for experienced teachers of art and others who hold certification to teach art and wish further training as teachers-artists-researchers.

The Department's facilities and services include fully equipped studios housed in several buildings, one of which is an Arts Center.

The Institute of Visual Arts (inova) galleries of the University of Wisconsin-Milwaukee Art Museum are also housed within the Arts Center providing a year-round schedule of exhibitions. The Department offers a schedule of workshops and special lectures each year. In addition, a limited number of individual graduate student studios are located in a research facility approximately one mile from campus.

Usually, four Frederick R. Layton Fellowships are awarded each year, two to incoming graduate students and two to continuing students, depending on funding. Information and application forms may be obtained from the Department of Visual Art Office of Graduate Studies.

A limited number of Teaching Assistantships and Project Assistantships are offered through the Department of Visual Art. Information and application forms may be obtained from the Department of Visual Art Office of Graduate Studies.

Students applying for admission to the three graduate programs in Art, should note these application deadlines:

- For Fall admission, the Graduate School recommends applying no later than the prior November 1, with portfolios and letters of recommendation due in the Department of Visual Art Office of Graduate Studies by January 7.

The Institute of Visual Arts (inova), oversees a year-round schedule of exhibitions in the two gallery sites and houses a study facility with contemporary art publications.

In addition the Department offers a schedule of workshops, lectures and seminars.

Graduate Faculty

Professors

Brauner, Marna, M.F.A., California College of Arts and Crafts
Gunderman, Karen, M.F.A., University of Michigan-Ann Arbor
Kraus, Charles, M.F.A., Southern Illinois University
Pevnick, Stephen, M.F.A., Washington University
Sargent, Denis, M.F.A., University of Iowa
Vansen, Leslie, M.F.A., University of Colorado

Associate Professors

Cho, Kyoung Ae, M.F.A., Cranbrook Academy of Art
Cosier, Kim, Ph.D., Indiana University
Davis-Benavides, Christoper, M.F.A., University of Wisconsin-Madison
Garrison, Lee Ann, M.F.A., University of Wisconsin-Milwaukee, Chair
Kaganovich, Yevgeniya, M.F.A., State University of New York-New Paltz
Knight, Kay, M.F.A., Washington University
Moline, Lisa, M.F.A., University of Wisconsin-Madison

Assistant Professors

Beckman, Kim, M.F.A., Cranbrook Academy of Art
Dobkin, Joan, M.F.A., Cranbrook Academy of Art
Flood, Frankie, M.F.A., University of Illinois-Urbana Champaign
Nemeth, Jeanne, Ph.D., Indiana University
Prats, Laura Trafi, Ph.D., Universitat de Barcelona
Rymarcsuk, Gina, M.F.A., University of Washington
Stuhmer, Marcelino, M.F.A., School of the Art Institute of Chicago
Wilson, Fo, M.F.A., Rhode Island School of Design

Master of Arts in Art

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

1. An undergraduate major in art including at least 40 studio credits and at least 45 academic credits outside the major.
2. Submission of a portfolio of 20 slides or CD with 20 images of original work.
3. Submission of a written personal statement of the proposed program of study.
4. Three (3) letters of recommendation.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

An applicant whose grade point average or quality of art work does not meet Graduate School and departmental standards may be considered for admission on probation, with continuance subject to review after completion of 6 credits.

Major Professor as Advisor

Immediately upon admission, the art student must contact the head of Graduate Studies and the head of the studio area in which the student will work for initial advising and advice in the selection of a major professor.

By the end of the fourth week of the student's second semester, the student must make arrangements for a professor in the Visual Art Department to serve as major professor and notify the Department of Visual Art Office of Graduate Studies that the professor is willing to serve in this capacity.

As soon as possible thereafter, the student, in consultation with the major professor, shall organize a Graduate Thesis Committee.This Committee consists of three or more members, at least one of whom must be from the student's area or areas of concentration. The Committee is composed of the major professor, who acts as

chair, one additional member of the faculty of the Department of Visual Art, and a third member who may be chosen from the graduate faculty of the Department of Visual Art or other departments within the University. The Committee may be augmented by additional members representing the above pools or by an expert in the community.

A student who wishes to change the area of study must first apply and be accepted into the new area of concentration. The student should then contact the head of the newly selected area for advice in possibly selecting a new major professor.

If the student's major professor takes a leave of absence or leaves the University, the student should contact the head of the area for advice in selecting a new major professor. The student must notify the Department of Visual Art Office of Graduate Studies of the change immediately.

Transfer of Credits

An applicant who holds graduate art credits from another institution may, upon admission, be permitted to transfer up to 12 credits. Acceptance of these credits is not automatic. The student must apply to the Graduate School for evaluation of the credits before they can be accepted.

Credits and Courses

Minimum degree requirement is 30 graduate credits, 24 of which must be taken in art and 6 of which must be taken in Art History or courses in contemporary culture. The student, in consultation with the major professor, plans a program of studies to include 6 credits in graduate art seminars including Philosophy and Concepts (3 cr.); 18 credits in studio art; 6 credits in art history or courses in contemporary culture.

Graduate Review

Each year, the student must participate in at least one Graduate Review. The student who qualifies to bypass the Master of Arts degree in pursuit of the Master of Fine Arts degree must participate in at least one Graduate Review before the written and oral MFA qualifying examinations.

Thesis Exhibition

Upon recommendation of the Graduate Thesis Committee, the student presents a thesis exhibition or presentation of work centering on the student's area of concentration and executed during graduate studies.

Comprehensive Examination

The student must pass a final oral and written examination.

Time Limit

The Department of Visual Art requires that students complete all degree requirements within five years of initial enrollment.

Master of Fine Arts in Art

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

1. Completion of 30 graduate course credits in art, including at least 18 in studio art, as required by the UWM Master of Arts in Art degree -- or the equivalent. The applicant need not necessarily hold the Master of Science or Master of Arts degree.
2. An applicant not holding a Master of Science or Master of Arts degree must also pass a written and oral qualifying examination.
3. Submission of a portfolio of 20 slides or CD with 20 images of original work.
4. Submission of a written personal statement of the proposed program of study.
5. Three (3) letters of recommendation.
6. If the applicant is continuing toward the MFA after completing coursework for Master of Arts in Art at UWM, a letter recommending continuation toward the MFA from the thesis examining committee will be accepted in lieu of slides, a personal statement, and letters of recommendation.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

An applicant admitted with graduate course deficiencies must earn whatever portion is lacking of the 30 credits normally required for admission in addition to the 30 credits the Department of Visual Art requires for the MFA degree.

Major Professor as Advisor

If the applicant is continuing toward the MFA after completing coursework for a UWM Master of Science in Art Education or Master of Arts in Art, the major professor and the Graduate Thesis Committee already selected will continue in these positions. If the applicant is newly admitted to the program, the head of the area of specialization should be contacted immediately for initial advising. By the end of the fourth week of the student's second semester in attendance, arrangements must be made for a professor in the Visual Art Department to serve as major professor and the Department of Visual Art Office of Graduate Studies should be notified of the professor's willingness to serve in this capacity.

As soon as possible thereafter, the newly admitted student, in consultation with the major professor, shall organize a Graduate Thesis Committee.This Committee consists of three or more members, at least one of whom must be from the student's area or areas of concentration. The Committee is composed of the major professor, who acts as chair, one additional member of the faculty of the Department of Visual Art, and a third member who may be chosen from the graduate faculty of the Department of Visual Art or other departments within the University. The Committee may be augmented by additional members representing the above pools or by an expert in the community.

A student who wishes to change the area of study must first apply and be accepted into the new area of specialization. The student should then contact the head of the newly selected area for advice in selecting a new major professor.

If the student's major professor takes a leave of absence or leaves the University, the student should contact the head of that area for advice in selecting a new major professor.

Credits and Courses

Minimum degree requirement is 30 graduate credits beyond the Master of Arts degree or the Master of Fine Arts Qualifying Exam. The student, in consultation with the major professor, plans a program of studies that includes 3 credits in a Graduate Art Seminar; 18 to 24 credits in studio art; 3 credits in Art History or courses in contemporary culture; 0 to 6 credits in related areas such as art history, anthropology, archaeology, or aesthetics. The student must earn at least 8 of the above credits through full-time attendance on campus in a single semester.

Graduate Review

MFA candidates must participate in at least one Graduate Review each academic year.

Thesis Exhibition

Upon recommendation of the major professor the student presents a thesis exhibition of work executed since admission to the program. The exhibition is held during the semester in which

the student completes the coursework for the degree.

Comprehensive Examination

The student must pass a final oral and written examination.

Time Limit

The Department requires that the student complete all degree requirements within five years of initial enrollment in the MFA program.

Master of Science in Art Education

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program. Applicants must send completed application form and official transcripts to the Graduate School. The following materials are also needed to consider an applicant for admission to the program and these must be sent to the Visual Art Department Graduate Studies Office:

1. Evidence (i.e., photocopy) of certification to teach art or admission into Teacher Certification Program in the School of Education.
2. An example of writing skill via a paper presented at a professional meeting, a printed art curriculum guide or instructional strategies, a research report, a school report, a published article, or comparable evidence.
3. Presentation of slide portfolio of applicant's original work (minimum 10, maximum 20 slides) and, if an experienced teacher, the work of one's students (minimum 10, maximum 20 slides). Explanatory or descriptive annotations must accompany slides.
4. Three (3) letters of recommendation.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

Upon admittance to the program, the student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

An applicant whose grade point average or quality of art work does not meet Graduate School and departmental standards may be considered for admission on probation, with continuance subject to review after the completion of 6 credits.

Major Professor as Advisor

Immediately upon admission the graduate student must contact the head of the Art Education Area for initial advising and aid in selection of a major professor from the faculty of the Art Education Area.

Upon completion of 9 graduate credits, each student must make arrangements for a professor in the Art Education Area to serve as the major professor and must notify the Visual Art Department Office of Graduate Studies of that professor's willingness to serve in such a capacity.

Immediately thereafter, each student, in consultation with the major professor, must organize a thesis committee. This committee consists of the major professor and two additional faculty members from the Visual Art Department.

If the student's major professor takes leave of absence, receives a sabbatical, or leaves the University, the student should contact the Head of the Art Education Area for advice in selecting a new major professor.

Transfer of Credits

Upon admission, an applicant may be permitted to transfer a maximum of 9 graduate credits earned at another institution. However, the student must apply to the Graduate School for an evaluation of such credits to determine if they are acceptable for transfer to the M.S. program.

Credits and Courses

The minimum requirement for the M.S. in Art Education degree is 30 graduate credits, 21 of which must be in the Visual Art Department. The student, in consultation with the major professor, is responsible for planning a 15 credit (minimum) program of study in art education with a specific focus in curriculum and instruction (which would include computer/video technology), exceptional education, early childhood education, multi-cultural instruction and/or museum education. Coursework should include a 9 credit (minimum) concentration of course work in studio art or, with major professor's written approval, in a related field such as art history, architecture, film, aesthetics, criticism, anthropology, sociology, or psychology.

Thesis

All M.S. in Art Ed. students must develop, present and defend a thesis to complete their degree. Three thesis options are available: a written thesis that emphasizes scholarly research; an applied study that includes the development and implementation of a significant teaching strategy or curricular model which is reported on in a written thesis; a thesis exhibition in which a student prepares a gallery presentation of a body of work created in studio courses. Thesis option must be selected by a student and approved by the major advisor before 15 graduate credits are earned.

Students who elect one of the written thesis options must have at least two members of the Art Education Area faculty on their thesis committee and one from their related field of study.

While studio courses are open to all graduate students who meet the prerequisites, those who elect the thesis exhibition option must be reviewed and accepted for thesis work by the faculty of the Area in which they wish to create a body of work to exhibit. Students must also complete a minimum of 15 credits of study in that studio area, participate in at least one Graduate Review before completing degree requirements, have at least two members of their studio area on their thesis committee, and meet the exhibition requirements of the Visual Art Department Graduate Studies Program.

Comprehensive Examination

All M.S. in Art Education students must pass a final oral examination in defense of the thesis. Students who elect the exhibition thesis option must pass both an oral and a written examination.

Time Limit

The Department of Visual Art requires that the student complete all degree requirements within five years of initial enrollment.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

302 Visual Art Workshop: (Subtitled). 3 cr. U/G.
Special topic course in Visual Art. May be retaken with topic change to 6 cr max. Prereq: jr st, & admis to visual art prog or to DIVAS; or grad st.

309 Issues in Contemporary Art: (Subtitled). 3 cr. U/G.
Lecture course focused on critical issues/theory in contemporary art and culture. Retakeable with topic change to 6 cr max. Prereq: jr st or cons instr.

317 3D Imaging I. 3 cr. U/G.
An introduction to 3D imaging techniques and applications. Prereq: jr st; admis to Visual Art prog or Inter-Arts/DIVAS prog; grad st; or cons instr.

326 Video and Audio Strategies for Artists and Designers. 3 cr. U/G.

Video and audio production for multiple contexts; multimedia, gallery, installation, environmental works, and documentation. Camera use, lighting, editing, recording, mixing and distribution. Prereq: jr st & admis to Visual Art prog or DIVAS prog; & Art 316(P) or FineArt 316(211)(P); or grad st; or cons instr.

347 Reading Works of Art. 3 cr. U/G.
An advanced course in the visual 'reading' of works of art from the artists' point of view. Course includes slide lecture, with discussion. Student presentation required. Prereq: jr st or cons instr.

366 Between Painting and Sculpture. 3 cr. U/G.
A studio laboratory consisting of a wide spectrum of techniques and ideologies, concentrating on the exploration of joining painting and sculpture as a consummate form. Prereq: jr st; Art 261(P).

367 Sculpture Colloquium I. 3 cr. U/G.
This lecture/discussion/laboratory course examines the values, philosophies and directions of contemporary sculpture through directed research, slides, gallery visits, and critiques. Prereq: jr st; Art 261(P) or grad st.

392 Lithography. 3 cr. U/G.
Studio work based on stone and plate lithography; lectures on history, multicolor printing, polyester plate and experimental techniques in lithography. Prereq: jr st; Admis to Visual Art prog; and Art 291(P); or grad st & cons instr.

394 Intaglio. 3 cr. U/G.
Studio work in intaglio; drypoint engraving, etching, relief-intaglio; aquatint, experimental procedures, color printing, development of personal graphic concept. Prereq: Admis to Visual Art prog, and Art 291(P); jr st; or grad st & cons instr.

396 Photo Screenprinting. 3 cr. U/G.
Screen-print process using the photo-stencil to reproduce hand-drawn and computer manipulated marks and images; printing skills, experimentation with materials and multiple reproduction. Prereq: jr st; Admis to Visual Art prog, and Art 291(P); or 253(P); or 231(P); or grad st & cons instr.

397 Book Arts Workshop: (Subtitled). 3 cr. U/G.
Studio work exploring traditional and experimental book structures. Media/content focus variable to include array of relevant topics. May be retaken to 6 cr max. Prereq: jr st; or grad st; or cons instr.

402 Visual Art Workshop: (Subtitled). 3 cr. U/G.
Special topic course in Visual Art. May be retaken with topic change to 6 cr max. Prereq: jr st & admis to visual art prog; or grad st; or cons instr.

423 Experimental Typography. 3 cr. U/G.
Advanced understanding of typography, its use in innovative information systems, its historical context and function in various media including print, architectural applications, Web and multimedia. Prereq: jr st & B- or better in Art 323(328)(P); or grad st; or cons instr.

426 Motion Graphics. 3 cr. U/G.
Introduction to history and production of short-duration motion graphics (industry, Internet, titling, graphics, creative projects) using contemporary production tools (video editing, compositing, audio recording/sequencing). Prereq: jr st & Art 326(P); or grad st; or cons instr.

427 Advanced Design Workshop: (Subtitled). 1-3 cr. U/G.
A short term, concept oriented workshop in graphic design. May be retaken with topic change to 6 cr max. Prereq: jr st & cons instr.

431 Special Topics in Fibers: (Subtitled). 3 cr. U/G.
Advanced problem-solving working toward the development of cohesive body of work in non-loom construction. May be retaken w/chg in topic to 6 cr max. Prereq: jr st, & Admis to Visual Art prog, & ART 231(P); or cons instr; or grad st.

432 Woven Structure II. 3 cr. U/G.
Continuation of ART 332. Further development of individual concepts in weaving leading to a cohesive body of work. Prereq: jr st, & Art 332(232)(P); or cons instr; or grad st.

433 Digital Imaging for Fabric. 3 cr. U/G.
Digital processes and screen-printing on textiles with an emphasis on individual expression. Prereq: jr st, & Admis to Visual Art prog, & Art 231(P); or cons instr; or grad st.

434 Fibers III-Weaving. 3 cr. U/G.
Individual research and execution of projects in various processes of weaving. Professional execution of work emphasized. Prereq: jr st; Art 432(P).

435 Mixed Materials: Concept/Object. 3 cr. U/G.
Individual research and execution of projects in various processes of non-loom fiber construction. Professional execution of work emphasized. Prereq: jr st, & Admis to Visual Art prog, & ART 231(P); or cons instr; or grad st.

436 Cloth Construction: Surface to Structure. 3 cr. U/G.
Individual research and execution of projects in various processes of fabric printing and construction. Prereq: jr st, & Admis to Visual Art prog, & Art 231(P); or cons instr; or grad st.

438 Fiber Workshop: (Subtitled). 3 cr. U/G.
A special topic course in fibers. May be retaken with topic change to 6 cr max. Prereq: See semester Schedule of Classes.

441 Advanced Drawing Strategies I. 3 cr. U/G.
Advanced investigation of drawing as an organizing tool for thought and personal image exploration. Students work with both assigned and independently-conceived problems. Prereq: jr st & Admis to Visual Art prog; or grad st.

447 Reading Works of Art. 3 cr. U/G.
Continuation of Art 347. Prereq: jr st or cons instr.

449 Painting And Drawing Workshop: (Subtitled). 1-3 cr. U/G.
A short term, special topic course in painting and drawing. Addtional prereqs may appear in the Schedule of Classes. May be retaken with change in topic to 6 cr max. Prereq: jr st or writ cons instr.

456 (455) Digital Photography: Advanced. 3 cr. U/G.
Self directed investigation, critiques and seminar discussions. Jointly offered with & counts as repeat of Film 456. Prereq: jr st; grade of B- or better in Art 350(P) or 352(252)(P); or grade of B or better in Film 350(P) or 352(P); or grad st; or cons instr.

459 Photography Workshop: (Subtitled). 1-3 cr. U/G.
A short term special topic course in photography. Additional prerequisites may be announced in Schedule of Classes each time course is offered. May be retaken with change in topic to 6 cr max. Prereq: jr st, & admis to Visual Art Prog or to DIVAS Prog; or grad st; or cons instr.

469 Sculpture Workshop: (Subtitled). 1-3 cr. U/G.
A short term special topic workshop in sculpture. Specific topic and additional prerequisites may appear in the Timetable each semester. May be retaken with topic change to a 6 cr max. Prereq: jr standing or writ cons instr.

471 Jewelry Casting. 3 cr. U/G.
An introduction to jewelry casting techniques. Design concepts in wax, model preparation, investing, and burn-out procedures. Demonstrations on casting systems including centrifugal, cuttlebone and gravity. Prereq: jr st; Art 373(P).

474 Portfolio and Professional Practice in Jewelry and Metalsmithing. 3 cr. U/G.
Introduction to professional and academic portfolio preparation including a cohesive body of work, resume, artist statement, visual documentation and portfolio presentation. Four hours studio monitoring mandatory. Prereq: jr st & Admis to Visual Art prog; Art 371(P) or 372(P) or 471(P) or 472(P); or 473(P); or grad st & cons instr

475 Advanced Jewelry and Metalsmithing III. 3 cr. U/G.
Continued advanced design and fabrication in jewelry and metalsmithing. Evolution of personal style. Prereq: jr st; Art 474(P).

479 Jewelry and Metalsmithing Workshop: (Subtitled). 1-3 cr. U/G.
Special topics workshop in jewelry and metalsmithing. May be retaken w/chg in topic to 6 cr. max. Prereq: jr st, & Admis to Visual Art prog, & Art 271(P); or grad st & cons instr

481 Ceramics Special Topics and Portfolio I. 3 cr. U/G.
Advanced problem-solving working toward the development of a cohesive body of work in the ceramic medium. Exploration of special thematic topics. Prereq: jr st, & Admis to Visual Art prog, & Art 281(P); or cons instr; or grad st & cons instr.

482 Ceramics Special Topics and Portfolio II. 3 cr. U/G.
Continuation of ART 481. Advanced problem solving and development of a cohesive body of work in the ceramic medium. Exploration of special thematic topics. Prereq: jr st, & Art 481(P); or grad st & cons instr.

489 Ceramics Workshop: (Subtitled). 1-3 cr. U/G.
A short-term special topic course in ceramics. May be retaken with change in topic to max of 6 cr. Prereq: jr st & writ cons instr.

493 Advanced Digital Printmaking. 3 cr. U/G.
An advanced studio course exploring digital media and traditional printmaking. Media/content focus to include array of relevant topics. Prereq: jr st & Art 393(293)(P); or grad st; or cons instr.

495 Advanced Printmaking: (Subtitled). 3 cr. U/G.
Develop conceptual base of work and expand range of print skills with emphasis on color printing and combination print processes. Retakable to 9 cr max. Prereq: jr st & Art 392(P) or 393(293)(P) or 394(P) or 396(P) or 398(P); or grad st; or cons instr.

496 Sequence and Structure. 3 cr. U/G.
Advanced studio course exploring the creation of sequential art and the development of visual narratives using experimental book structures as well as electronic media (web, multimedia). Prereq: jr st & Art 291(P) or 253(P); or 221(228)(P); or grad st & cons instr.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Studio and special problems designed to provide relevant course work for a study abroad program in the visual arts. May be retaken with change in topic to max of 12 cr. Prereq: jr st; acceptance in Study Abroad Prog.

499 Advanced Printmaking Workshop: (Subtitled). 3 cr. U/G.
Special topic course in Print and Narrative Forms. May be retaken with topic change to 6 cr max. Prereq: jr st; or grad st; or cons instr. Additional prerequisites may appear in Schedule of Classes each time course is offered.

509 Visual Art Seminar: (Subtitled). 3 cr. U/G.
Topics and critical issues in the modern and/or contemporary field of art. Student research and written/oral reports required. Retakeable with change in topic to 6 cr max. Prereq: jr st or cons instr.

524 Professional Practice: (Subtitled). 3-6 cr. U/G.
Preparation for internships through research, writing and portfolio development; placements require prior instructor review; students with internships will be supervised for credit. Graduate level requires additional research. May be retaken with topic change to 6 cr max. Prereq: jr st, & Art 321(229)(P); or grad st; or cons instr.

529 Design Portfolio. 3 cr. U/G.
Design portfolio emphasizes a complete and comprehensive synthesis of graphic design through comprehensive studio projects developed for a graduate portfolio. Prereq: jr st, & grade of B- or better in Art 421(329)(P) & 6 cr (final 3 may be taken conc) Graphic Design Expanded Studies (grade of C or better); or grad st & cons instr.

539 Fibers-Independent Study. 1-6 cr. U/G.
Individual program of supervised study for the advanced student in fibers. May be retaken w/chg in topic to 6 cr max. Prereq: jr st; Admis to Visual Art prog; or grad st, & cons instr.

541 Advanced Drawing Strategies II. 3 cr. U/G.
Continuation of Art 441. Advanced investigation of drawing as an organizing tool for thought and personal image exploration. Students work on assigned and independently-conceived problems. Prereq: jr st & Art 441(P); or grad st.

542 Advanced Figure Drawing Explorations. 3 cr. U/G.
Continuation of Art 442. Advanced focus on the human figure. Emphasis on personal interpretations in studio-based and outside assignments. Prereq: Admis to Visual Art prog; jr st & Art 442(P); or grad st.

543 Painting Studio. 3 cr. U/G.
Advanced investigation of painting focused upon personal image exploration through independently conceived problems. May be retaken to 9 cr max. Prereq: jr st & Admis to Visual Art prog; Art 441(P), & 443(P); or grad st.

544 Advanced Watercolor. 3 cr. U/G.
Individual exploration of watercolor as an expressive medium. Prereq: jr st; Art 444(P).

545 Painting and Drawing Critique. 3 cr. U/G.
Paintings or drawings done independently are brought in weekly for critiquing by faculty members and invited guests. Emphasis is on concept image and authority of presentation. Any medium. Prereq: sr st; Art 344(P) or 543(P); 442(P) or 541(P); & writ cons instr.

546 Advanced Figure Painting. 3 cr. U/G.
Painting the figure from observation. Addresses historical, contemporary uses of figure, non-Western traditions, and individual direction. Prereq: jr st & Admis to Visual Art prog; & Art 343(P); or grad st.

552 Advanced Studio Practice in Photography. 3 cr. U/G.
Students define and pursue their own photographic project. Written requirements as well as a final portfolio required. Jointly offered with & counts as repeat of Film 552. Prereq: jr st; grade of B- or better in Art 451(351)(P), 454(P) or 456(455)(P) or grade of B or better in Film 451(P), 454(P) or 456(P); or grad st; or cons instr.

553 Photography Portfolio. 3 cr. U/G.
Continuation of Art 552 or Film 552 with emphasis on final presentation of project. Jointly offered with & counts as repeat of Film 553. Prereq: jr st; grade of B- or better in Art 552(P) or grade of B or better in Film 552(P); or grad st; or cons instr..

561 Conceptual Process, Sculptural Presence. 3 cr. U/G.
Development of advanced concepts in contemporary sculpture. May be retaken to 6 cr max. Prereq: jr st; Admis to Visual Art prog, & Art 261(P), & 363(P); or 365(P); or 461(P); or 464(P); or grad st.

562 Environmental Sculpture and Installation. 3 cr. U/G.
Development of sculptural work that incorporates the environment, integration of sculptural form, installation, and performance. May be retaken to 6 cr max. Prereq: jr st & Admis to Visual Art prog; Art 363(P) & 365(P), or 461(P), or 464(P), or 561(P); or grad st & cons instr.

569 Issues In Contemporary Sculpture: (Subtitled). 1-3 cr. U/G.
This course provides the format for the development and presentation of new material on an experimental, limited term basis by the sculpture faculty. May be repeated with change in topic to max of 9 cr. Prereq: jr st; Art 261(p).

584 Experimental Processes in Woodfiring II. 3 cr. U/G.
Advanced research and further development of personal aesthetic in woodfiring. Leadership in supervising the firing process required. Prereq: jr st, & Art 384(P); or grad st & cons instr.

585 Advanced Ceramics V. 3 cr. U/G.
Continuation of Art 584. May be retaken to max of 6 cr. Prereq: jr st; Art 584(C).

591 Print and Narrative Forms-Advanced Studio Practice. 1-6 cr. U/G.
Individual program of supervised study for the advanced student in Print and Narrative Forms. May be retaken to 9 cr max. Prereq: jr st; cons instr.

595 Colloquium: Print and Narrative Forms. 3 cr. U/G.
Imaging and hybrid forms in contemporary photographic, book arts, narrative forms and print work. Prereq: jr st; or grad st; or cons instr.

599 Advanced Printmaking II. 3 cr. U/G.
Continued individual research into defining and pursuing a personalized style with an

emphasis on professional execution of work. Prereq: Art 597(P).

603 Advanced Studio Practice. 1-3 cr. U/G.
A special course open only to seniors and graduate students with written cons instr. May be retaken to max of 3 cr. Prereq: sr st; writ cons instr.

608 Visual Art Internship. 3-6 cr. U/G.
Provides structured opportunities for art students to earn credit for skills and professional experience gained working in galleries, museums, studios, arts organizations or art businesses. Prereq: jr st & admis to Visual Art prog; or grad st & cons instr.

609 Independent Reading and Research. 1-3 cr. U/G.
- May be retaken with change in topic to max of 9 cr. Prereq: sr st & writ cons instr.

627 Design Seminar: (Subtitled). 3 cr. U/G.
Role and responsibility of professional designer investigated. Topics may include contemporary trends and issues, design education, ethics, social activism, career opportunities. Prereq: jr st; or grad st; or cons instr.

629 Graduate Graphic Design I. 3 cr. U/G.
Individual research in graphic design. Prereq: Art 529(P) or cons instr.

644 Advanced Watercolor. 3 cr. U/G.
Continuation of Art 544. Prereq: jr st; Art 544(P).

645 Painting and Drawing Critique. 3 cr. U/G.
An advanced critique format course to investigate painting and drawing mediums. Students will develop and discuss conceptual, technical, and collective dialogue strategies. Prereq: sr st or writ cons instr.

753 Graduate Photography I. 3 cr. G.
Self-directed research in photography with involvement in group critiques. Prereq: grad st.

851 Graduate Photography II. 3 cr. G.
Continuation of Art 753. Prereq: grad st; Art 753(P).

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirements. Fee for 1 cr assessed. Prereq: grad st.

889 Advanced Research-Ceramics. 1-4 cr. G.
Advanced independent research for graduate students. Prereq: grad st; Art 689(P), 781(P), 782(P).

900 Graduate Studio. 3 cr. G.
Ongoing critique of individual studio research in students' chosen medium(s). Emphasis on developing and maintaining interdisciplinary dialogue. Studio research, individual, and group critiques required. May be repeated to max of 9 cr. Prereq: grad st

901 Seminar in Art-Philosophy and Concepts. 3 cr. G.
Presentations and discussions centering on contemporary concerns in art. Student research and oral reports. Prereq: grad st.

903 Seminar in Art-Reading and Research. 3 cr. G.
Experience in the systematic development and production of written and visual documentation or research. Prereq: grad st

904 Seminar In Art-Unique Topics In Art: (Subtitled). 3 cr. G.
Examination of unique topics and issues of the modern and/or contemporary field of art. Student research and written/oral reports required. May be retaken only as elective beyond 9 cr seminar for M.F.A. or 6 cr required for M.A. prereq: grad st

905 Seminar in Art - Critique Colloquium. 3 cr. G.
Studio critique/discussion to develop analytical perceptual skills in the understanding/comprehension of works of art. Student research, presentation and written/oral reports required. Prereq: grad st

908 Advanced Research-General. 1-4 cr. G.
Independent work and research in areas not covered by specific courses. Prereq: grad st; cons instr.

909 Independent Reading and Research. 1-4 cr. G.
Independent reading and research relative to art problems. Prereq: grad st; cons instr.

929 Graduate Graphic Design IV. 3 cr. G.
Individual research in graphic design. Final preparation for thesis exhibition. Prereq: Art 829(P).

930 Advanced Research-Fibers. 1-4 cr. G.
Independent work and research in fibers. Prereq: grad st & cons instr.

943 Advanced Research-Painting. 1-4 cr. G.
Independent work and research in painting. Prereq: grad st; cons instr.

952 Advanced Research-Photography. 3 cr. G.
Independent work and research in photography. May be repeated with change in topic to max of 6 cr. Prereq: grad st; cons instr.

961 Advanced Research - Sculpture. 1-4 cr. G.
Independent work and research in sculpture. Prereq: grad st & cons instr.

973 Advanced Research-Jewelry and Metalsmithing. 1-6 cr. G.
Independent work and research in metalsmithing or jewelry. Prereq: grad st; writ cons instr.

994 Advanced Research-Printmaking. 1-4 cr. G.
Independent work and research in printmaking. Prereq: grad st & cons instr.

ART HISTORY

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School/College: College of Letters and Science

Degree Conferred:

- MA in Art History

Overview

The Department of Art History offers a graduate program of studies in the history, theory, criticism and connoisseurship of art. Coursework is offered in Western art (European and American) and Non-Western art (African, Asian, and Pre-Columbian) from antiquity to the present. Independent investigation and study are afforded in architecture, painting and sculpture in each of the major periods. The program is designed to permit the student to develop familiarity with a broad range of stylistic periods and with research techniques employed in their study.

The program prepares the student for advanced work leading to the PhD, and through the Certificate in Art Museum Studies, for careers in curatorial, educational and administrative positions in museums and art galleries.

Graduate Faculty

Professors

Bendiner, Kenneth P., Ph.D., Columbia University, Chair

Hayes, Jeffrey R., Ph.D., University of Maryland

Stone, Andrea, Ph.D., University of Texas

Associate Professors

Counts, Derek, Ph.D., Brown University

Maranci, Christina, Ph.D., Princeton University

Wang, Ying, Ph.D., University of Pittsburgh

Assistant Professors

Douglas, Eduardo, Ph.D., University of Texas-Austin

Tiffany, Tanya, Ph.D., Johns Hopkins University

Master of Arts in Art History

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

1. A minimum of 15 credits in Art History.
2. Submission of scores on the Graduate Record Examination.
3. Two letters of recommendation from persons familiar with applicant's academic or professional activities and potential.
4. Strongly recommended, though not required: background in languages, history or classics. Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at time of admission should immediately contact the Graduate Advisor.

Option A: Thesis Option

Option A is designed primarily for the student who wishes to pursue a specialized problem in greater depth than would be possible in normal course structure.

Credits and Courses

Minimum degree requirement is 27 graduate credits in Art History, of which a minimum of 15 credits must be at the 700/900 level. The 15 credits include ArtHist 700 (Proseminar in Art History) but exclude ArtHist 703 and 704 (Introduction to Museum Studies I and II). Six of the 15 credits should be taken in thesis research (ArtHist 990).

Under special circumstances, 3 credits in 700/900 level work may be substituted for 3 of the 6 credits of thesis research. In addition, students may take a maximum of 6 credits of independent research (890, 891 and/or 999); however, these credits may not be taken in the first 6 credits of graduate work in the Department, and not until all deficiencies (if any) have been satisfied. Furthermore, they may not be counted toward the 15-credit requirement at the 700/900 level. They will, however, count toward the overall number of credits needed to graduate. All students must take the Proseminar in Art History (ArtHist 700) in their first fall semester.

Of the total 27 credits, each student is required to take 3 credits in at least four of the following five areas: Ancient, Medieval, Renaissance-Baroque, Modern (1750 to the Present including Film), and Non-Western. At least 6 of these credits must be taken in courses numbered 700 or above. The following courses may not be used to satisfy the distribution requirement although they will count toward the overall number of credits needed to graduate: 302, 303, 351, 353, 355, 459.

Upon petition to the graduate advisor, a student may be permitted to take up to 6 credits in appropriate areas outside Art History (e.g., anthropology, literature, history, music history, philosophy, film).

Language Requirement

Students must demonstrate a reading knowledge of one art historical language, e.g. French, German, Italian, Spanish or other language as appropriate. Students must take the departmental reading exam in the language of their choice at least once by the time they have completed 9 credits. If they do not pass the exam on the first attempt, they will be expected to enroll in an appropriate language course. Students may not enroll in thesis research (990) unless they have passed the language examination.

Thesis or Exhibition

The student must either write a thesis or organize an exhibition accompanied by a scholarly catalog on a subject selected in consultation with the advisor. This study or exhibition must demonstrate the student's ability to organize material and familiarity with research methods and art historical literature pertinent to the student's topic and area of interest. The exhibition is considered the equivalent of a formal thesis and the accompanying written work must be submitted to the Graduate School in appropriate format.

Comprehensive Examination

The student must pass a final comprehensive examination, which will take the form of an oral defense of the thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment. It is expected that a full-time student will normally complete all of the requirements for the degree within two years.

Option B: Non-Thesis Option

Option B is designed primarily for students who prefer to broaden their general backgrounds in Art History by working on a variety of shorter research problems within the normal course structure.

Credits and Courses

Minimum degree requirement is 27 graduate credits in Art History, of which a minimum of 15 credits must be at the 700/900 level. The 15 credits include ArtHist 700 (Proseminar in Art

History) but exclude ArtHist 703 and 704 (Introduction to Museum Studies I and II). In addition, students may take a maximum of 6 credits of independent research (890, 891 and/or 999); however, these credits may not be taken in the first 6 credits of graduate work in the Department, and not until all deficiencies (if any) have been satisfied. Furthermore, they may not be counted toward the 15-credit requirement at the 700/900 level. They will, however, count toward the overall number of credits needed to graduate. All students must take the Proseminar in Art History (ArtHist 700) in their first fall semester.

Of the total 27 credits, each student is required to take 3 credits in at least four of the following five areas: Ancient, Medieval, Renaissance-Baroque, Modern (1750 to the Present including Film), and Non-Western. At least 6 of these credits must be taken in courses numbered 700 or above. The following courses may not be used to satisfy the distribution requirement although they will count toward the overall number of credits needed to graduate: 302, 303, 351, 353, 355, 459.

Upon petition to the graduate advisor, a student may be permitted to take up to 6 credits in appropriate areas outside Art History (e.g., anthropology, literature, history, music history, philosophy, film).

Language Requirement

Students must demonstrate a reading knowledge of one art historical language, e.g. French, German, Italian, Spanish or other language as appropriate. Students must take the departmental reading exam in the language of their choice at least once by the time they have completed 9 credits. If they do not pass the exam on the first attempt they will be expected to enroll in an appropriate language course. Students may not register for Art History courses beyond 21 credits unless they have passed the language examination.

Thesis

No formal thesis is required.

Comprehensive Examination

The student must pass a final two-part comprehensive examination consisting of a 2-hour written slide examination covering three of the distribution areas in which the student has taken courses, and a take-home essay on one area of concentration. The student must pass both parts in order to pass the examination. Each part of the examination may be repeated once.

Time Limit

The student must complete all degree requirements within five years of initial enrollment. It is expected that a full-time student will normally complete all of the requirements for the degree within two years.

Certificate in Art Museum Studies

The Certificate in Art Museum Studies is designed as an addition to the M.A. in Art History for students interested in pursuing careers in the museum world.

Students wishing to earn the Certificate must complete a minimum of 39 credits in Art History including 27 credits as outlined above under Option A and a minimum of 12 additional credits as follows: 3 credits in Art History 703, Introduction to Art Museum Studies I; 3 credits in Art History 704, Introduction to Art Museum Studies II; Art History 991, Thesis Exhibition (an exhibition accompanied by a scholarly catalogue); and a minimum of 3 or maximum of 6 credits in Art History 891, Art Museum Internship. No more than 3 credits of 891 may be taken in a single semester. All of the other requirements for Option A must also be fulfilled.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

312 Minoan and Mycenaean Art and Archaeology. 3 cr. U/G.
Architecture, sculpture, and painting in the Aegean during the Bronze Age, with emphasis on recent archaeological discoveries. Prereq: jr st.

313 Greek Art and Archaeology. 3 cr. U/G.
Major developments in Greek art from Archaic times through the Hellenistic period. Emphasis on architecture, sculpture, and painting of the Archaic and Classical periods. Prereq: jr st.

315 Art and Archaeology of Ancient Egypt. 3 cr. U/G.
Architecture, arts, and crafts created for Egyptian kings, nobles, and commoners from the Predynastic period (5500 B.C.) to Cleopatra (31 B.C.). Chicago field trip; fee assessed. Prereq: jr st; ArtHist 101(R).

316 Roman Art and Archaeology. 3 cr. U/G.
Major developments in the evolution of Roman architecture, sculpture and painting from Republican through late Imperial times. Prereq: jr st.

320 Medieval Art and Architecture. 3 cr. U/G.
Major monuments of medieval art and architecture from the fourth to the fourteenth century in France, Spain, the British Isles, Italy and the Mediterranean. Satisfies L&S International req. Prereq: jr st.

322 Origins of Medieval Art. 3 cr. U/G.
Fundamental changes from Classical to Medieval art in the late Roman, early Christian, early Byzantine, and early Medieval periods, c.250-800 A.D. Prereq: jr st.

324 Art and Architecture of Byzantium. 3 cr. U/G.
Art and architecture of Constantinople and vicinity from the fourth to the fifteenth century. Prereq: jr st or cons instr.

325 Early Medieval Art in the West. 3 cr. U/G.
Architecture, sculpture, metalwork and manuscript illumination from c.500-c.1050 A.D. in Ireland, Britain, France, Spain, Germany, Scandinavia and Northern Italy. Prereq: jr st; ArtHist 101(R).

326 Heretics and Iconoclasts: The Art and Architecture of the Christian East. 3 cr. U/G.
The artistic and visual traditions of Christian cultures to the east of the Mediterranean, including Syria, Cappadocia, Armenia, and Georgia, from late antiquity to c. 1500. Satisfies L&S International req. Prereq: jr st.

327 The Arts of Islam. 3 cr. U/G.
Arts of the Islamic world from the Umayyad dynasty to the Ottoman Empire. Architecture, manuscripts, and portable objects. Satisfies L&S International req. Prereq: jr st or cons instr.

329 Art and Architecture of the Late Middle Ages. 3 cr. U/G.
Church architecture, manuscript illumination, and architectural and figural sculpture from the Gothic era to the rise of the Renaissance. Satisfies L&S International req. Prereq: jr st or cons instr.

333 High Renaissance Art in Italy. 3 cr. U/G.
The formation of the great style discussed in terms of the attainments of representative artists such as Leonardo da Vinci, Michelangelo, Raphael, and Titian. Prereq: jr st.

340 Baroque Art in Italy, France, and Spain. 3 cr. U/G.
Seventeenth century painting and sculpture examined on the basis of such artists as Caravaggio, Bernini, Velazquez, El Greco, Poussin, and Claude Lorrain. Prereq: jr st.

341 Seventeenth-Century Art in Holland and Flanders. 3 cr. U/G.
The development of art in Flanders and Holland during the seventeenth century, examining the works of artists Rubens, Van Dyck, Rembrandt, Hals, and Vermeer. Prereq: jr st.

342 Art and Civic Culture in Fifteenth-Century Florence. 3 cr. U/G.
Masterpieces by artists including Donatello, Piero della Francesca, and Botticelli in concert with Florentine civic discourse on politics, religion, and gender. Prereq: jr st.

351 English Art: 1550-1850. 3 cr. U/G.
Architecture, painting, and sculpture in England from Elizabeth I to the Great Exhibition of 1851; emphasis on Wren,

Adam, Reynolds, Gainsborough, Constable, and Turner. Prereq: jr st.

353 American Art: Colonial Period - 1870. 3 cr. U/G.
Architecture, painting, sculpture, and decorative arts of colonial America through the civil war period with emphasis on their aesthetic and social contexts. Prereq: jr st.

354 American Art: 1870 - Present. 3 cr. U/G.
Painting, sculpture, and the decorative arts from 1870 to the present with emphasis on their aesthetic and social contexts. Prereq: jr st.

355 American Folk Art. 3 cr. U/G.
Survey of American folk art from colonization to the present. Emphasis on major styles and themes, regional developments, and relationship to the fine arts. Prereq: jr st.

357 Nineteenth-Century Painting in Europe. 3 cr. U/G.
History of European painting from 1800 to 1900. Prereq: jr st.

358 Modern Painting I: 1850-1900. 3 cr. U/G.
Realist, Impressionist, and Post-Impressionist movements in historical and intellectual contexts; emphasis on Courbet, Manet, Renoir, Degas, Pissaro, Seurat, Cezanne, Gauguin, Ensor, Munch, Van Gogh. Prereq: jr st.

359 Modern Architecture I: The European Foundations of Modern Architecture. 3 cr. U/G.
An aesthetic, stylistic, theoretical, technical and functional study of European architecture from the end of the Baroque style to the beginning of Modernism. Prereq: jr st; ArtHist 101(R) & 102(R).

360 Modern Architecture II: The Rise of Modern Architecture. 3 cr. U/G.
Emphasizing the work of the major modern architect, the course traces the evolution of architecture from the beginnings of Modernism to the present time. Prereq: jr st.

361 Modern Architecture III: Contemporary Architecture. 3 cr. U/G.
The intellectual, visual, and social evolution of architecture since the early 1960's. Prereq: jr st; ArtHist 360(P) or cons instr.

363 Modern Sculpture: 1880-1945. 3 cr. U/G.
Development of the Expressionist, Cubist, Futurist, Dada, Surrealist, and Constructivist movements and work of independent sculptors against the twentieth century historical and intellectual background. Prereq: jr st.

364 Modern Painting II: 1900 to the Present. 3 cr. U/G.
Development of the Fauve, Cubist, Expressionist, Dada, Surrealist, and Abstract movements against the historical and intellectual background of the twentieth century. Emphasis on leading individual twentieth century artists. Prereq: jr st.

365 History of Photography. 3 cr. U/G.
A survey of photography from its inception in 1826 to the present. Topics include stylistic and technological evolution, cultural impact, and aesthetic considerations of photography. Prereq: jr st; ArtHist 102(R) or 357(R).

366 German Painting, 1800-1933. 3 cr. U/G.
Major German painters from Runge to Beckmann. Romantic art theory, landscape, Expressionism, and 'Neve Sachlichkeit.' Prereq: jr st.

367 Latin American Modernisms. 3 cr. U/G.
Modernist developments in Latin American art, circa 1900 to circa 1960. National and regional histories and artistic trajectories; relationships between European and Latin American modernisms. Prereq: jr st.

368 History of Modern Design. 3 cr. U/G.
An investigation of the craft or decorative arts-specially furniture, ceramics, glass, metalwork, and textiles-from the Great Exhibition of 1851 to the present. Prereq: jr st.

371 African Art. 3 cr. U/G.
Art of the indigenous peoples of different sections of Africa, with consideration of both aesthetic qualities and the social context of the art. Prereq: jr st.

372 Pre-Columbian Art of South America. 3 cr. U/G.
Native arts of South America before European contact; emphasis on artistic developments in the Andean region. Prereq: jr st; ArtHist 104(R).

373 Pre-Columbian Art of Mesoamerica. 3 cr. U/G.
Arts of ancient Mexico and Central America; emphasis on the Olmec, the Maya, and the Aztecs. Prereq: jr st.

375 Art of the Aztec Empire. 3 cr. U/G.
Comprehensive introduction to the art of the Aztec Empire, including architecture, monumental sculpture, small-scale sculpture, ceramics, painting, lapidary work, goldwork, and featherwork. Counts as repeat of ArtHist 499 with same subtitle. Prereq: jr st.

382 Chinese Art and Architecture. 3 cr. U/G.
Chinese bronzes, jades, painting, sculpture, and architecture from the Neolithic (5000 B.C.) to the modern period, including Buddhist, Daoist, Confucianist, and Communist art. Prereq: jr st.

384 Art and Archaeology of the Chinese Bronze Age. 3 cr. U/G.
In-depth study of ritual bronzes and other crafts created for nobles and commoners of the Bronze Age, with emphasis on recent archaeological discoveries. Prereq: jr st.

412 Cities and Sanctuaries of Ancient Greece. 3 cr. U/G.
Development of Greek urban and religious architecture from Archaic through Hellenistic times. The growth of such centers as Athens, Delphi, Olympia, Paestum, Priene, and Pergamon. Prereq: jr st.

413 Greek Sculpture. 3 cr. U/G.
Development of sculpture from the Geometric Period through the Hellenistic age. All forms of sculpture considered, not just freestanding works. Prereq: jr st.

414 Greek Vase Painting. 3 cr. U/G.
Major styles of Greek vase painting with emphasis on Attic black figure and red figure painting and painters of the fifth and sixth centuries B.C. Prereq: jr st.

416 Roman Architecture. 3 cr. U/G.
Formation and development of Roman architecture from its Greek and Italic elements through the decline of the civilization in the fourth century A.D. Prereq: jr st.

424 The Dome: Form, Function, and Meaning. 3 cr. U/G.
Formal, technical, and historical meanings of the dome from antiquity to the Middle Ages in monuments such as the Pantheon, Hagia Sophia, and Blue Mosque. Satisfies L&S International req. Prereq: jr st or cons instr.

425 Romanesque Architecture. 3 cr. U/G.
Development of church architecture of the eleventh and twelfth centuries in France, England, and Germany. Prereq: jr st.

426 French Gothic Architecture C.1130-C.1300. 3 cr. U/G.
Gothic architecture from its origins in the Ile-de-France through the High Gothic cathedrals to the European-wide diffusion of the Rayonnant style. Prereq: jr st; ArtHist 101(R).

431 Renaissance Architecture in Italy. 3 cr. U/G.
Florentine and other Italian architecture in the fifteenth and sixteenth centuries; such artists as Brunelleschi, Alberti, Bramante, Leonardo da Vinci, Michelangelo, and Palladio. Prereq: jr st.

435 Art and Architecture Along the Western Silk Road. 3 cr. U/G.
Artistic exchange between Europe, Byzantium, Asia Minor, the Caucasus, and the Islamic world during the Middle Ages through the textile trade. Satisfies L&S International req. Prereq: jr st or cons instr.

444 The Arts of France in the Seventeenth Century. 3 cr. U/G.
Major figures and movements against the historical and intellectual background. Emphasis on such painters as Le Nain, La Tour, Poussin, Claude Lorrain, Champaigne, Puget, Mansard, Le Vau, and Perrault. Prereq: jr st.

445 Art in Seventeenth Century Spain. 3 cr. U/G.
Major figures in the historical and intellectual context of the Golden Age; emphasis on Velazquez, El Greco, Zurbaran, Murillo, and Ribera. Prereq: jr st or cons instr.

446 Topics in Seventeenth Century Art: (Subtitled). 1 cr. U/G.

Major artist or theme in seventeenth-century art, e.g. Rembrandt, Rubens, or portraits and personalities. May be offered as a mini-course. Retakable w/chg in topic to 3 cr max. Prereq: jr st.

447 Topics in Early Modern Art: (Subtitled). 3 cr. U/G.
Key themes, genres, and artists in European art from the fourteenth through the seventeenth centuries. Themes may include gender, politics, and religion. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

458 A Comparative History of Architecture and Urbanism: (Subtitled). 3 cr. U/G.
Physical history of contrasting cities, concentrating on architectural development of all types: institutional, commercial, industrial, residential, and recreational. Emphasizes historical context as well as formal development. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

459 American Architecture. 3 cr. U/G.
Architecture in the United States from its beginnings in the 17th century to its absorption into international Modernism at the time of World War II. Prereq: jr st; ArtHist 103(P) or 102(P) or cons instr.

461 Early Modern Architecture in the Midwest. 3 cr. U/G.
The American phase of modern architecture that was centered in Chicago between the 1880's and the 1920's: Sullivan, Wright and their students, colleagues and followers. Prereq: jr st.

462 Frank Lloyd Wright. 3 cr. U/G.
The work of America's and Wisconsin's best-known architect presented in its historical, cultural and philosophical contexts. Prereq: jr st; one of the following courses recom: ArtHist 102(R), 359(R), 360(R), 459(R).

463 Cubism and its Inheritance. 3 cr. U/G.
The development of Cubism by Picasso and Braque and its progeny in Paris, in futuristic Italy, and in constructivist Russia. Prereq: jr st.

464 European Art, 1890-1910. 3 cr. U/G.
European art in a pivotal period in the history of modern painting, architecture, and sculpture; post-impressionism, symbolism, art nouveau, fauvism, expressionism, and cubism. Prereq: jr st.

465 Dada and Surrealist Art. 3 cr. U/G.
Two major twentieth-century art movements; their sources, major proponents, and later influence; Duchamp, De Chirico, Ernst, Giacometti, Picasso, Miro, Magritte, Dali. Prereq: jr st.

466 American Painting and Sculpture: 1945-1960. 3 cr. U/G.
Critical survey of the New York School and Abstract Expressionism against the historical-cultural background of the twentieth century. Prereq: jr st & one course in modern art (ArtHist 102 is acceptable).

467 American Painting and Sculpture: Pop Art to the Present. 3 cr. U/G.
Critical survey of Pop, Op, Kinetic, Systemic, Minimal, Colorfield, New-Realism, Antiform, Earthworks, Conceptual, and other avant-garde movements of the 1960's and 1970's. Prereq: jr st & one course in modern art (ArtHist 102 is acceptable).

469 American Master Painters: (Subtitled). 3 cr. U/G.
Course focuses on three painters from one of five periods: West, Copley, Peale; Allston, Cole, Mount; Homer, Eakins, Ryder; Hopper, Davis, O'Keefe; Pollock, Warhol, Rauschenberg. Specific topic and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 6 cr max. Prereq: jr st.

470 Topics in American Art: (Subtitled). 3 cr. U/G.
In-depth examination of important themes, genres, or subgroups in the evolution of American art. Retakable w/chg in topic to 6 cr max. Prereq: jr st.

474 Maya Art. 3 cr. U/G.
Ancient Maya art, with emphasis on the Classic Period florescence, its development, and major themes. Prereq: jr st.

480 Chinese Painting. 3 cr. U/G.
Major developments in Chinese painting from 6 B.C. to the modern period, including landscapes, figures, flowers-and-birds, and calligraphy. Prereq: jr st.

481 Topics in Chinese Art: (Subtitled). 1-3 cr. U/G.
In-depth examination of important themes, genres, or subgroups in the evolution of Chinese art. Retakable w/chg in topic to 6 cr max. Prereq: jr st.

482 Topics in Non-Western Art: (Subtitled). 3 cr. U/G.
In-depth examination of major themes, genres, or regional sub-groups within the field of non-western art. Retakable w/chg in topic to 6 cr max. Prereq: jr st.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

700 Proseminar in Art History. 3 cr. G.
Historiography and methodology of art history. Prereq: grad st.

703 Introduction to Art Museum Studies I. 3 cr. G.
History and theory of the art museum; emphasis on the discourse of the modern museum, and selected issues in contemporary exhibition and display. Course fee may be assessed. Prereq: grad st.

704 Introduction to Art Museum Studies II. 3 cr. G.
Methodologies and technologies of art museum work, including collection management, exhibition organization, catalogue production , and educational programming. Course fee may be assessed. Prereq: grad st; ArtHist 703(P).

710 Colloquium in Ancient Art and Archaeology: (Subtitled). 3 cr. G.
Directed readings and discussions on topics in the arts of greece, rome, egypt, or the near east. Emphasis on scholarly source materials and methodological approaches. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

720 Colloquium in Medieval Art/Architecture: (Subtitled). 3 cr. G.
Directed readings and discussions on topics in early christian byzantine and western medieal art and architecture. Emphasis on scholarly source material and methodological approaches. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

730 Colloquium in Renaissance/Baroque Art/Architecture: (Subtitled). 3 cr. G.
Directed readings and discussions on topics in the arts of the renaissance and/or baroque periods. Emphasis on scholarly source material and methodology. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

740 Colloquium in Latin American Art: 3 cr. G.
Directed readings, critical discussions, and short written reports on topics in Latin American art, 1492 to the present. Emphasis on scholarly sources and methodological approaches. Retakable w/ chg in topic to 9 cr max. Prereq: grad st

750 Colloquium in American Art: (Subtitled). 3 cr. G.
Directed readings, critical discussions, and short written reports on topics in American art 1600-present. Emphasis on scholarly sources and methodological approaches. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

760 Colloquium in Modern Art/Architecture: (Subtitled). 3 cr. G.
Directed readings, critical discussions, and short written reports on topics in modern art/architecture 1800-present. Emphasis on scholarly sources and methodological approaches. Specific topic and any additional prerequisites will be announced

in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

761 Colloquium in Film History, Theory, Criticism: (Subtitled). 3 cr. G.
Readings in contemporary historiography and theory methodologies. Application of criticism to films and periods. 12 essays, 1 paper. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

770 Colloquium in Non-Western Art: (Subtitled). 3 cr. G.
Problems in the traditional arts of pre-Columbian America, Africa, and Oceania. Develops methodological skills in art history through the exploration of art in non-western societies. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

890 Independent Field Study. 1-3 cr. G.
Independent research in local archives, on local monuments, or on archaeological expeditions. Prereq: grad st; cons instr.

891 Art Museum Internship. 3 cr. G.
Supervised practical experience in local art museums arranged on individual basis. Introduction to curatorial and/or administrative duties; 'hands on' treatment of works of art. Retakable to 6 cr max. Prereq: grad st; at least 6 cr in ArtHist at grad level & cons internship coord.

901 Problems in Art History: (Subtitled). 3 cr. G.
Selected problems in art historical scholarship. Students will research scholarly problems in depth and present the results in both oral and written form. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; one 700-level colloquium in ArtHist & cons instr.

990 Thesis Research. 3-6 cr. G.
- Retakable to 6 cr max. Prereq: grad st & writ cons grad advisor or instr.

991 Thesis Exhibition. 3-6 cr. G.
Organization and installation of an art exhibition. Retakable to 6 cr max. Prereq: grad st; ArtHist 700(P); writ cons grad advisor or instr.

999 Reading and Research. 1-3 cr. G.
Advanced independent research. For information, consult department chair. Prereq: grad st; cons instr.

BIOLOGICAL SCIENCES

- Phone: (414) 229-4214
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- E-mail: daads@uwm.edu

School/College: College of Letters and Science

Degrees Conferred:

- MS in Biological Sciences
- PhD in Biological Sciences

Overview

The Department of Biological Sciences offers graduate programs in biology with areas of concentration in botany; microbiology; cellular and molecular biology; genetics; physiology and morphology of plants and animals; terrestrial and aquatic ecology; behavioral biology; conservation biology; and evolution.

Facilities of the Great Lakes WATER Institute, the UWM Field Station, the departmental greenhouse, and the electron microscope laboratory provide opportunities for laboratory and field research. The recommended deadline for submitting applications for admission to the graduate programs in Biological Sciences is January 1 for the Fall semester and for TA or RA support. The recommended deadline for admission for the Spring semester is September 1 and for the summer, January 1. Timely application is encouraged for students seeking financial support. The deadline for Graduate School Fellowship applications is mid-January for the upcoming academic year beginning with the Fall semester. Highly qualified applicants may be offered a Ruth I. Walker Memorial Fund Scholarship (variable dollar amount), for up to two years. All applicants approved for admission by April 1 are considered for the Ruth Walker award; a special application is not required. When applying for admission, applicants should describe as completely as possible their specific research interests within biological sciences. Applicants are strongly encouraged to establish contact, before or during the application process, with Biological Sciences faculty members whose research interests are closest to their own, regarding the likelihood of one serving as the student's major professor. To assist the applicant in this process, a Biological Sciences Graduate Program brochure is available, which describes the research activities of the faculty. The brochure can be obtained by contacting the departmental office.

Graduate Faculty

Shaw Distinguished Professor
- Strickler, J. Rudi, Ph.D., Swiss Federal Institute of Technology

Professors
- Bergtrom, Gerald, Ph.D., Brandeis University
- Brooks, Arthur S., Ph.D., Johns Hopkins University
- Buntin, John, Ph.D., Rutgers University
- Collins, M. L., Perille, Ph.D., Rutgers University
- Forst, Steven, Ph.D., New York University
- Heathcote, David R., Ph.D., University of California-Berkeley
- Hoot, Sara, Ph.D., University of Michigan
- Hutz, Reinhold J., Ph.D., Michigan State University
- McBride, Mark, Ph.D., University of Wisconsin-Madison
- Whittingham, Linda, Ph.D., Queen's University

Associate Professors
- Berges, John, Ph.D., University of British Columbia
- Coggins, James R., Ph.D., Wake Forest University
- Dunn, Peter, Ph.D., University of Alberta
- Ehlinger, Timothy J., Ph.D., Michigan State University
- Karron, Jeffrey D., Ph.D., University of Colorado
- Kaster, Jerry L., Ph.D., University of Colorado
- Saffarini, Daad, Ph.D., University of Wisconsin-Milwaukee
- Sandgren, Craig, Ph.D., University of Washington, Chair
- Steeber, Douglas, Ph.D., University of Wisconsin-Madison
- Wejksnora, Peter J., Ph.D., Brandeis University
- Wimpee, Charles F., Ph.D., University of California-Los Angeles
- Witten, Jane. L., Ph.D., University of Chicago
- Yang, Ching-Hong, Ph.D., University of California-Riverside

Assistant Professors
- Cheng, Yi-Qiang (Eric), Ph.D., Michigan State University
- Fink, Charles, Ph.D., University of Connecticut
- Kuchin, Sergei, Ph.D., Institute of Genetics and Selection of Industrial Microorganisms, Moscow, Russia
- Oliver, Julie, Ph.D., University of Wisconsin-Madison
- Prasad, Gyaneshwar, Ph.D., Maraja Sayajirao University of Baroda, India
- Schnitzer, Stefan, Ph.D., University of Pittsburgh
- Udvadia, Ava, Ph.D., Duke University
- Young, Erica, Ph.D., Monash University, Australia
- Zeng, Chaoyang, Ph.D., Yale University
- Zhao, Dazhong (Dave), Ph.D., The Chinese Academy of Sciences, Beijing, China

Senior Scientists
- Goetz, Frederick, Ph.D., University of Wyoming
- Janssen, John, Ph.D., Michigan State University
- Klump, J. Val, Ph.D., University of North Carolina
- Reinartz, James A., Ph.D., Duke University

Associate Scientists
- Bootsma, Harvey, Ph.D., University of Manitoba
- Carvan, Michael, Ph.D., Texas A&M University
- McLellan, Sandra, Ph.D., University of Cincinnati
- Meyer, Gretchen, Ph.D., Cornell University
- Owen, Heather, Ph.D., Miami University
- Waples, James, Ph.D., University of Wisconsin-Milwaukee

Assistant Scientists
- Klaper, Rebecca, Ph.D., University of Georgia

Master of Science in Biological Sciences

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

1. Undergraduate coursework equivalent to the Biological Sciences major at UWM, including coursework in the following areas of plant or animal science: cellular and molecular biology or genetics; organismal biology; ecology.
2. A year of physics; chemistry through organic or biochemistry.
3. Undergraduate mathematical preparation including at least one course in calculus, statistics, or biometry.
4. Submission of scores on the General Test of the Graduate Record Examination.
5. At least two letters of recommendation from persons familiar with the applicant's scholarship and research potential.

Applicants may be admitted with specific course deficiencies (e.g. physics, chemistry) provided that the deficiencies amount to no more than two courses. The student is expected to satisfy deficiency requirements with a grade of C or better within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree. The student is expected to maintain a grade of B in all other coursework.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The Graduate Committee assigns a faculty advisor as a necessary prerequisite to admission.

Credits and Courses

Minimum degree requirement is 24 graduate credits, at least 18 of which must be in biological sciences and up to 6 of which may be in related areas. Of the 24 credits, at least 12 must be course or seminar credits -- not research credits. The student must take at least two seminars during the course of the student's program up to a maximum of 4 credits counting toward the degree; and enroll in Biology Colloquium each semester with a maximum of 4 colloquium credits counting toward the degree. The student plans a program of studies in consultation with the major professor. If desired, a special area of concentration (botany, microbiology, physiology) may be declared.

MS Graduate Advisory Committee

The MS Graduate Advisory Committee is selected by the major professor in consultation with the student, by the end of the first year of enrollment. The MS Advisory Committee consists of the major professor and two other graduate faculty members. The Committee must meet at least once a year to monitor and formally report on the student's academic and research progress.

Oral Examination

The student must pass an MS oral examination. The examination should be taken by the end of the first year of enrollment, but in any event, must be taken no later than the end of the second year of enrollment. The MS Advisory Committee administers the oral examination.

Thesis

Students must prepare and defend a thesis reporting the results of their research. During the final year of study, students must present a seminar on their research, with prior public announcement.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Biological Sciences

Admission

An applicant must meet Graduate School requirements plus the following program requirements to be considered for admission:

- Applicant must present at least 30 credits in one or more areas of biological sciences and must show substantial evidence of scholarly potential. A master's degree is not prerequisite for admission to the PhD program.
- Other academic preparation: a year of general physics including at least one semester of laboratory; one year of general college chemistry with laboratory, plus at least one semester of organic chemistry with laboratory or biochemistry with laboratory; two courses in college mathematics chosen from among courses in calculus, biometry or statistics.
- Submission of scores on the General Test of the Graduate Record Examination.
- Acceptance by a faculty member in the program who will act as major professor (sponsor): see Major Professor as Advisor.
- Three letters of recommendation from persons familiar with the applicant's scholarship, research achievements and potential.

Applicants may be admitted with specific course deficiencies provided that the deficiencies amount to no more than two courses. The student is expected to satisfy deficiency requirements with a grade of C or better within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree. The student is expected to maintain a grade of B in all other coursework.

Reapplication

A student in the MS program, or who receives the master's degree at UWM, must formally reapply for admission to the Graduate School before continuing studies toward the PhD.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The graduate committee assigns the incoming biological sciences student to an advisor whose experience and research most closely approximates the student's own career interests. Before the student's preliminary examination either this initially assigned advisor or another qualified staff member is designated as the student's major professor.

Course of Study

Minimum degree requirement is 54 credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM. Of the 54 credits, at least 28 must be earned in formal courses and graduate seminars. (Four colloquium credits are required after the bachelor's degree and count toward the degree.) The student must take at least three seminars during the student's course of study up to a maximum of 8 credits counting toward the degree. The remaining 26 credits may be earned in independent reading and/or study, or research. At least 30 of the 54 credits must be in biological sciences; 12 credits may be earned in allied sciences, including those in the secondary area of concentration or minor field(s).

Secondary Area of Concentration

The student must select a secondary area of concentration either within biological sciences or in an allied science, and must present at least 9 credits of course work in that area to the departmental Graduate Committee. A university minor (option A or B) may qualify as a secondary area of concentration upon approval by the departmental Graduate Committee.

Language or Data Analysis Proficiency

The student must demonstrate proficiency either in a foreign language or data analysis. The student can demonstrate language proficiency in one language other than English (German, French, Russian or Spanish preferred), either through examinations or through 12 credits of specified coursework, either before or after admission to the program. The student can demonstrate proficiency in data analysis by presenting 12 credits in one or more of the following: mathematics (200-level or above), statistics, computer science.

Residence

The student must meet Graduate School residence requirements.

PhD Advisory Committee

The PhD Advisory Committee shall be selected by the major professor in consultation with the student by the end of the first year of enrollment. The PhD Advisory Committee shall consist of the major professor and four other graduate faculty members. One of the faculty should reflect competency in the secondary area of concentration. When the advisory committee is formed, the student must prepare a departmental "certification document" for the approval of the committee. The committee must meet at least once a year to monitor and formally report on the student's academic and research progress.

Dissertation Proposal and Doctoral Preliminary Examination

Prior to the doctoral preliminary examination, the student submits a preliminary written dissertation proposal to the student's PhD Advisory Committee and delivers an oral presentation of relevant research in progress. The doctoral preliminary examination is in two parts. Part I is a written exam; Part II is an oral exam. Parts I and II of the doctoral preliminary examination must be taken with a warrant from the Graduate School; and must be taken before

the end of the second or third year of full-time enrollment (before completion of 24 or 36 credits for students with a MS or BS degree, respectively). Deviation from this plan must be approved by the Graduate Committee.

Dissertator Status

Specific requirements which must be completed before the Graduate School places a doctoral student in dissertator status are described in the Doctor of Philosophy Degree requirements section.

Dissertation

In consultation with the major professor the candidate must select a suitable research project and submit a written research plan. The final dissertation proposal constitutes the student's written research plan which is subject to approval of the PhD Advisory Committee. This plan is to be submitted to the Department. The research plan will be reviewed for progress annually. During the final year of study the candidate must present a seminar, with prior public announcement, on this research and must prepare a dissertation reporting the results of this research. The original research findings embodied in this dissertation should be acceptable for publication in a refereed journal.

Dissertation Defense

As the final step toward the degree the candidate must defend the dissertation before the PhD Advisory Committee.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program. For additional information on Graduate School PhD requirements, see the Doctor of Philosophy Degree requirements section.

Doctor of Philosophy with an Interdisciplinary Specialty in Biogeochemistry

Under the auspices of the doctoral programs in Chemistry, Biological Sciences, and Geosciences and the research program of the Center for Great Lakes Studies, the Department of Biological Sciences offers doctoral training with an interdisciplinary specialization in Biogeochemistry. This specialization provides a multi-disciplinary program within the broad field of environmental and aquatic science.

Admission

Prospective students wishing to specialize in Biogeochemistry must initially be admitted to the Department of Biological Sciences Doctoral Program. Admission to the Interdisciplinary Specialty is determined by the Interdisciplinary Biogeochemistry Specialization Committee consisting of representatives from the participating departments and the Center for Great Lakes Studies. In addition to departmental admission requirements, students are expected to have an undergraduate degree in biological sciences or a closely related field and to have completed at the college level at least two semesters of calculus, one semester of statistics, two years of chemistry and one year of physics. A master's degree is not a prerequisite for admission to the PhD program.

Major Advisor and Research Committee

Entering students will be assigned a temporary major professor to advise and supervise their studies. No later than the end of the third semester, students in this specialization are required to choose a permanent major advisor to direct their doctoral research and to form a graduate thesis research committee consisting of graduate faculty from the Departments of Biological Sciences, Chemistry and Geosciences, and the Center for Great Lakes Studies.

Course of Study

All doctoral students are required to earn a minimum of 54 credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM. The curriculum of the Specialization includes a required Biogeochemistry Core course taken in the first year of graduate study, an annual seminar course requirement, and individualized course requirements selected by the student's graduate thesis research committee from a wide variety of course offerings in the sciences and related fields, based upon the student's background and doctoral research topic. At the end of the first year, students must pass a written qualifying examination based upon core course materials and their departmental major in order to continue in the Biogeochemistry Specialization. Students are expected to pursue a program of highly original, interdisciplinary research in the broad field of environmental science, which synthesizes the linkages among the physical, chemical and biological components of the natural world. In addition to course work and research, students in the Interdisciplinary Specialization are required to obtain at least one semester of teaching experience as a teaching assistant in one the natural science departments, and participate in local community outreach through presentations, instruction, or interactions with local secondary schools, or other community involvement related to environmental issues. All students are required to obtain field experience as an integral part of their training program, e.g. through field research activities here or abroad, participation in sea-going research cruises, etc.

Doctoral Preliminary Examination

In order to advance to candidacy for the PhD degree, students must pass a written and oral doctoral preliminary examination no later than at the end of their second year, demonstrating a comprehensive knowledge in the field of biogeochemistry and their own chosen area of specialization. Upon completion of their research, students must prepare and defend a dissertation, reporting the results of their research in a public forum.

Further Information

Admission, general program requirements, and additional information on degree and research opportunities can be obtained from the departmental office or from the UWM Center for Great Lakes Studies.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

401 Immunology. 2 cr. U/G.
Fundamentals of the immune response, including cellular, physiological and molecular aspects. 2 hrs lec. Animal or molecular/microbiology course. Prereq: jr st; Bio Sci 315(P) or 325(260)(P); Chem 341(P) or 343(P).

402 Immunological Techniques. 3 cr. U/G.
Modern methods and protocols in immunology. 6 hrs lab. Animal or molecular/microbiology course. Prereq: jr st; Bio Sci 401(C).

405 General Virology. 3 cr. U/G.
Basic course in nature of viruses: bacterial, plant, and animal. The use of viruses in model systems for molecular biology and agents of disease. Molecular/microbiology course. Prereq: jr st; Bio Sci 325(260)(P); Bio Sci 315(P) or 383(303)(P); Chem 501(R).

406 Marine Biology. 3 cr. U/G.
Marine biology with a strong ecological focus; physical and chemical constraints that marine environments impose on organisms; specialized adaptations of marine organisms in response. 2 hrs lec, 1 hr dis. Animal or environmental/evolutionary course. Prereq: jr st; Bio Sci 152(P) & 310(P).

407 Plant Systematics and Evolution. 3 cr. U/G.
Survey of important plant families; plant systematic theory, current techniques in data collection and analysis. 2 hrs lec/dis; 4 hrs lab. Prereq: jr st; Bio Sci 152(P); Bio Sci 310(C) or 325(C); or grad st; or cons instr.

408 Dendrology. 3 cr. U/G.
The systematics, structure, and ecology of Wisconsin's woody plants. 2 hrs lec, 4 hrs lab & field work. Plant course. Prereq: jr st; Bio Sci 150(P) & 152(P).

425 Plankton Biology. 4 cr. U/G.
Planktonic algae and zooplankton; emphasis on taxonomy, diversity, and ecology. Laboratory includes microscopic examinations and experimental studies of development, physiological ecology, and predator-prey interactions. 3 hrs lec, 4 hrs lab. Prereq: jr st; Bio Sci 150(P), 152(P), & any of 310(C), 315(C) or 325(C).

430 (530) Animal Behavior-Ethology. 3 cr. U/G.
Animal behavior from the biologist's point of view, relating species-characteristic behavior to environment, internal function, ontogeny, and evolution. 3 hrs lec/dis. Animal course. Prereq: jr st; Bio Sci 310(P) or 316(C).

435 Identification and Systematics of Flowering Plants. 3 cr. U/G.
Identification and systematics of native and naturalized plants in forests, prairies, savannahs, and old fields of southeastern Wisconsin. 1 hr lec, 4 hrs lab/field work. Plant course. Prereq: jr st; Bio Sci 152(P) & 407(R).

455 Neurobiology. 3 or 4 cr. U/G.
The nervous systems ranging from the basic biophysical properties of neurons to the cellular and molecular basis of learning and memory. Grads must enroll in lec & dis for 4 cr; undergrads may enroll in lec only for 3 cr, or in lec & dis for 4 cr. Prereq: jr st; BioSci 152(P) & 315(C), or Psych 254(P).

458 Community Ecology. 3 cr. U/G.
Theories and models in community ecology. Analysis of biological communities emphasizing the origin, maintenance and consequences of species diversity within local communities. Environmental/evolutionary course. Prereq: jr st; Bio Sci 152(P) & 310(P) or cons instr; or grad st.

465 Biometry. 3 cr. U/G.
Simple distribution; statistical inference; simple regression theory; experimental design; analysis of variance and covariance as they relate to biology. Plant or animal or molecular/microbiology or environmental/evolutionary course. Prereq: jr st; Bio Sci 150(P); Math 105(P).

470 Cell and Molecular Biology. 4 cr. U/G.
The various processes and functions performed by living cells, particular attention to the molecular basis of cellular activities. 3 hrs lec, 4 hrs lab-dis. Molecular/microbiology course. Prereq: jr st; Bio Sci 150(P), 152(P) & 325(260)(P); course in organic chem, or cons instr.

475 Tropical Biology: (Subtitled). 3 cr. U/G.
Ecology and biogeography of various types of tropical forests, including required field trip to area being studied. Required field trip at participants' expense. Retakable w/chg in topic to 9 cr max. Prereq: jr st; BioSci 310(P); cons instr.

482 Aquatic Plant Biology. 4 cr. U/G.
The systematics and ecology, structure and physiology of aquatic vascular plants. 3 hrs lec, 4 hrs lab & field work. Plant course. Prereq: jr st; Bio Sci 150(P) & 152(P).

490 (660) Molecular Genetics. 3 cr. U/G.
Molecular mechanisms of higher organisms and model systems. Topics include gene structure, genetic and genomic analysis, gene expression and regulation. 2 hrs lec, 1 hr dis. Molecular/microbiology course. Prereq: jr st; Bio Sci 325(260)(P); Bio Sci 315(C) & 316(C).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM-sponsored program before course work level, content, and credits are determined and/or in specially-prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

500 Plant Physiology. 3 cr. U/G.
Major biological activities of plants; including growth, development, and metabolism. 3 hrs lec/dis. Plant course. Prereq: jr st; Bio Sci 325(P); Bio Sci 310(P) or 315(P) or cons instr.

501 Plant Physiology Laboratory. 2 cr. U/G.
Basic laboratory techniques useful in studying plant activities. 6 hrs lab/dis. Plant course. Prereq: jr st & Bio Sci 500(C).

505 Conservation Biology. 3 cr. U/G.
Genetic and ecological approaches to the conservation of biological diversity. Topics include biology of rare plants and animals, design of nature reserves, and restoration ecology. 3 hrs lec. Environmental/evolutionary course. Prereq: jr st; Bio Sci 152(P) & 325(260)(P).

511 Ichthyology. 3 cr. U/G.
The classification, morphology, physiology, and ecology of fishes. 2 hrs lec, 4 hrs lab, field work. Animal course. Prereq: jr st; Bio Sci 150(P) & 152(P).

512 Limnology I. 3 cr. U/G.
The ecology of freshwater ecosystems as influenced by physical and chemical processes. Environmental/evolutionary course. Prereq: jr st; Bio Sci 150(P) & 152(P), course in chem; or cons instr.

513 Limnology I Laboratory. 1 cr. U/G.
Field sampling techniques and analytical methods for assessing biological, chemical, and physical processes in aquatic ecosystems. Environmental/evolutionary course. Prereq: jr st; Bio Sci 512(C).

514 Limnology II: Plankton Ecology. 3 cr. U/G.
Ecology of freshwater organisms, including resource acquisition, biotic interactions, and plankton conributions to ecosystem properties and lake management strategies. Prereq: jr st; Bio Sci 310(P); Bio Sci 425(P) or 512(P); or cons instr.

521 Benthic Ecology. 3 cr. U/G.
Chemicophysical and biological interactions in aquatic systems. Emphasis on aquatic entomology and invertebrate biology. 2 hrs lec, 4 hrs lab. Environmental/evolutionary course. Req'd field work for which fee is assessed Prereq: jr st; Bio Sci 310(P), & 512(P).

523 Evolution and Ecology of Birds. 3 cr. U/G.
Study of the origin and maintenance of diversity in birds. Topics include systematics, biogeography, life-history behavior, and conservation. 3 hrs lec. Animal or environmental/evolutionary course. Prereq: jr st; Bio Sci 152(P) & 310(P).

525 Ecology and Evolution of Fishes. 3 cr. U/G.
Studies of form and function in fishes and relationships with their environment. Topics include feeding and reproductive ecology, species interactions, evolution, and genetics. 3 hrs lec. Animal or environmental/evolutionary course. Prereq: jr st; Bio Sci 310(P).

526 Fish Ecology Laboratory. 1 cr. U/G.
Studies of the ecological structure of freshwater fish communities, research techniques, environmental requirements of fishes, and management strategies. 4 hrs lab & field work. Animal or environmental/evolutionary course. Prereq: jr st; Bio Sci 525(C).

529 (650) Molecular Biology of Microorganisms. 3 cr. U/G.
Molecular analysis of microbial genetic systems of bacteria, phage, fungi, and yeast. 2 hrs lec, 1 hr dis. Molecular/microbiology course. Prereq: jr st; Bio Sci 383(303) (P).

532 (655) Behavioral Ecology. 3 cr. U/G.
Behavioral adaptations of organisms in relation to their environment, including social organization, territoriality, cooperation and conflict, parental care, breeding strategies, foraging. Animal or environmental/evolutionary course. Prereq: jr st; Bio Sci 310(P).

536 Applied Microbiology and Biotechnology. 2 cr. U/G.
Real-world application of natural and genetically-engineered microorganisms to bioremediation, waste treatment, agriculture and production of food, beverages, chemicals, fuels, enzymes, vaccines and pharmaceuticals. 2 hrs lec. Molecular/microbiology course. Prereq: jr st; Bio Sci 383(303)(P) or cons instr.

539 (663) Laboratory Techniques in Molecular Biology. 4 cr. U/G.
Molecular biological techniques, including cell cultures, RNA and DNA isolation, cloning and sequencing of genes; use of expression vectors; protein electrophoresis. 2 hrs lec/dis, 6 hrs lab. Molecular/microbiology course. Prereq: jr st; Bio Sci 315(P), 316(P) & 325(260)(P).

540 Microbial Diversity and Physiology. 3 cr. U/G.
Physiology, ecology, and diversity of microorganisms. 3 hrs lec.

Molecular/microbiology or environmental/evolutionary course. Prereq: jr st; Bio Sci 383(303) (P).

542 Biological Electron Microscopy. 3 cr. U/G.
Theory, design, and operating principles of scanning and transmission electron microscopes; preparation of biological specimens. Molecular/microbiology course. Prereq: jr st; Bio Sci 315(P) & 316(P) or cons instr.

543 (343) Scanning Electron Microscopy Laboratory. 2 cr. U/G.
Lab/dis with an emphasis on 'hands-on' exercises including biological specimen prep, microscope operation and photography. Molecular/microbiology course. Prereq: jr st; Bio Sci 542(C) & cons instr.

544 Transmission Electron Microscopy Laboratory. 3 cr. U/G.
Lab/dis with an emphasis on 'hands-on' exercises including fixation and sectioning of biological specimens, microscope operation and photography. Molecular/microbiology course. Prereq: jr st; Bio Sci 542(C) & cons instr.

545 (675) Physiology of Reproduction. 3 cr. U/G.
Mammalian reproductive physiology with emphasis on humans; neuroendocrine control of reproductive cycles, pregnancy, and lactation; clinical implications; biological aspects of human population control. Prereq: jr st; Chem 103(P) or 341(P) or 343(P); Bio Sci 315(P); or cons instr.

553 (430) Seaweeds and Coastal Marine Biology. 3 cr. U/G.
Adaptations of seaweeds and benthic marine invertebrates for survival on rocky marine shores; ecological interatctions that provide structure to shoreline communities and foodwebs. 2 hrs lec; 1 hr dis. Students are encouraged to enroll subsequently in Bio Sci 554. Prereq: jr st; Bio Sci 152(P) & 310(P) or 425(P); or cons instr.

554 Marine Ecology Laboratory. 2 cr. U/G.
Three-week field trip to a marine station to study seaweeds, benthic invertebrates, and intertidal ecology at student's expense. Prereq: jr st; Bio Sci 553(C) or cons instr.

556 (656) Developmental Neurobiology. 3 or 4 cr. U/G.
The mechanisms involved in the genesis and maintenance of nervous system organization. 3 hrs lec, 1 hr dis. Grad students enroll in LEC & DIS for 4 cr. Undergrads may enroll in LEC only for 3 cr or LEC & DIS for 4 cr. Prereq: jr st; Bio Sci 354(P) or 356(P) or cons instr.

560 Plant Ecology. 3 cr. U/G.
Study of plant-environment relationships at the individual, population and community levels. 2 hrs lec, 4 hrs lab & field experience. Plant or environmental/evolutionary course. Prereq: jr st: Bio Sci 150(P), 152(P), 310(P). Bio Sci 407(R).

562 Topics in Field Biology: (Subtitled). 1-2 cr. U/G.
Intensive mini-course on topics in applied and basic field biology such as vegetation sampling, natural area management, wetland delineation. Environmental/evolutionary or may satisfy plant or animal, depending on topic; consult dept. Retakable w/chg in topic to 6 cr max. Prereq: jr st; Bio Sci 310(P); add'l prereqs may be required depending on topic.

564 (630) Endocrinology. 3 cr. U/G.
Physiological, biochemical, and phylogenetic aspects of hormonal communication; emphasis on vertebrates. 3 hrs lec. Prereq: jr st; Chem 103(P) or 341(P) or 343(P); Bio Sci 315(P); or cons instr.

565 Eukaryotic Gene Regulation. 3 cr. U/G.
Molecular mechanism by which genes are regulated in higher eukaryotes, including humans. Role of gene regulation during normal development and disease in eukaryotes. Prereq: jr st; Bio Sci 315(P) or 325(P) or grad st.

572 Functional Genomics. 3 cr. U/G.
Organization, function, and analysis of genes, proteins, and genomes using internet databases and bioinformatic tools; current knowledge of genomes in various organisms; transcriptomics and proteomics. 2 hrs lec, 1 hr dis. Molecular/microbiology course. Prereq: jr st; Bio Sci 325(260) (P).

573 (676) Cellular Evolution. 3 cr. U/G.
Theories concerning the origin of life on Earth and the evolution of cellular structure and function, culminating in the emergence of the multicellular kingdoms. 2 hrs lec, 1 hr dis. Molecular/microbiology or environmental/evolutionary course. Prereq: sr st; Bio Sci 315(P) or 325(260)(P); Bio Sci 316(P); Chem 341/342(P) or 343/344/345(P), or cons instr; Bio Sci 383(303)(R) or 490(660)(R) or Chem 501(R) or 601(R).

575 Evolutionary Biology. 3 cr. U/G.
Evolutionary processes in natural populations. Topics include mating patterns, speciation, gene flow, natural selection, and genetic approaches to conservation. 3 hrs lec. Environmental/evolutionary course. Grad students must reg conc in Bio Sci 776. Prereq: jr st; Bio Sci 152(P) & 325(260)(P).

577 The Cellular and Molecular Basis of Learning and Memory. 3 cr. U/G.
Learning and memory from a cellular and molecular viewpoint. Topics include synapse formation, neuronal communication, neuroplasticity, and diseases of learning and memory. Prereq: jr st; Bio Sci/Psych 354(P) or cons instr.

580 Experimental Microbiology. 4 cr. U/G.
Modern experimental approaches to study of microbial physiology and genetics. 2 hrs lec/6 hrs lab. Molecular/microbiology course. Prereq: jr st; Bio Sci 383(303) (P).

595 Principles of Genetic and Molecular Engineering. 3 cr. U/G.
Conceptual knowledge about the principles of genetic and molecular engineering; for upper undergraduate and graduate students. Molecular/microbiology course. Prereq: jr st; Bio Sci 325(P) & 383(P) or equiv or cons instr.

596 Neuropharmacology. 3 cr. U/G.
Cellular and molecular mechanisms of drug action on the nervous system. Topic include drug affects on neurotransmitters, receptors, cell signaling, and neurological disease/disorders. Prereq: jr st; BioSci/Psych 354(P) or 355(P) or Psych 654(P) or cons instr.

599 Special Topics in Biological Sciences: (Subtitled). 1-3 cr. U/G.
In-depth examination of important subjects in one or more areas of the biological sciences. Specific credits and add'l prereqs announced in Schedule of Classes each time course offered. Specific topics may satisfy major area req; consult dept. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

605 Concepts and Models of Aquatic Ecology. 3 cr. U/G.
Interactions between aquatic organisms and their physical and chemical environments; case histories of concept and model development. 2 hrs lec, 1 hr dis. Environmental/evolutionary course. Prereq: jr st; Bio Sci 310(P) or cons instr.

607 Environmental Microbiology. 3 cr. U/G.
Bacteria from the environment; emphasis on aquatic systems; biogeochemical cycles, bioremediation, and environmental control of gene expression. Molecular/microbiology or environmental/evolutionary course. Prereq: jr st; Bio Sci 383(303)(P).

611 Seminar on Recent Advances in Limnology and Oceanography: (Subtitled). 2 cr. U/G.
Lectures and discussion of current issues in limnology and oceanography; focus on a specific issue or research topic. Environmental/evolutionary course. Retakable w/chg in topic to 6 cr max. Prereq: jr st; Bio Sci 512(P) or cons instr.

615 Human Physiology. 4 cr. U/G.
An advanced study of human physiological systems and their mechanisms. 3 hrs lec; 3 hrs lab/dis. Animal course. Prereq: jr st; Bio Sci 150(P) & 152(P), Bio Sci 203(P).

625 Human Genetics. 3 cr. U/G.
Principles of human cytogenetics, biochemical genetics, immunogenetics, and population genetics. 3 hrs lec-dis. Molecular/microbiology course. Prereq: jr st; Bio Sci 325(260)(P).

640 Biological Theories. 3 cr. U/G.

History and current status of selected theories in biology. 3 hrs lec/dis. Prereq: jr st; 1 yr of Chem; Bio Sci 150(P) & 152(P), or cons instr.

667 Advanced Techniques in Microbial, Molecular and Cellular Biology: (Subtitled). 4 cr. U/G.
Such topics as hybridoma technology, bacterial gene transfer, gene expression systems. 1 hr dis, 6 hrs lab. Topic and any add'l prereqs announced in Schedule of Classes each time course is offered. Molecular/microbiology course. Retakable w/chg in topic to 9 cr max. Prereq: sr st; Bio Sci 383(303)(P) or equiv or cons instr.

700 Principles in Molecular Biology. 4 cr. G.
Molecular aspects of gene regulation, development, signal transduction, cell cycle control, cell-cell communication and cell motility. 3 hrs lec, 1 hr dis. Prereq: grad st; Chem 501(R) or equiv.

704 Biogeochemistry: 1-4 cr. G.
The role of aquatic, atmospheric, and terrestrial environments in mediating and controlling the cycles of biologically important elements on time scales of milliseconds to millenia. Jointly-offered with Chem 704 & Geo Sci 704. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

708 Issues and Practices in Biology Education. 1 cr. G.
Workshops for college educators on classroom presentation and management, interactive learning, student- and self-assessment, teaching in the laboratory. 3 hr lc/ds. Prereq: grad st.

715 Cardiovascular and Respiratory Physiology. 3 cr. G.
Human cardiovascular and respiratory systems, including structure, function, control mechanisms and clinical implications of each system. 3 hrs lc-ds. Prereq: grad st; Bio Sci 202(P), 203(P) & 320(P) or cons instr.

725 Recent Advances in Molecular Microbiology and Immunology: (Subtitled). 3 cr. G.
Current developments and research in molecular microbiology and/or immunology. 3 hrs lec. Retakable w/chg in topic to 9 cr max. Prereq: grad st or cons instr.

730 Molecular Endocrinology. 3 cr. G.
Molecular basis of hormone action leading to nuclear and cytoplasmic responses at the molecular level are related to cellular and physiological actions. 3 hrs lc. Prereq: grad st; Bio Sci 470(P) & 630(P) or 660(P)or cons instr.

750 Scientific Writing. 2 cr. G.
Writing techniques for the sciences, including proposal writing, submission of papers to journals. Writing and editing research proposals, scientific papers, and review papers. Critique of published papers. Prereq: grad st.

776 Evolutionary Biology Laboratory. 1 cr. G.
Experimental approaches to the study of ecological genetics. Topics include techniques for measurement and analysis of genetic variation, fitness, inbreeding depression, and mating systems. 3 hrs lab. Prereq: grad st or cons instr; Bio Sci 575(C).

804 Current Topics in Biogeochemistry: 1 or 2 cr. G.
Impact of biological, geological, and chemical principles on selected interdisciplinary topics; scientific and mass media publications and results of new studies are critiqued. Jointly-offered with Chem 804 & Geo Sci 804. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

805 Field and Lab Techniques in Biogeochemistry: 1 or 2 cr. G.
Field and sampling methodology and analytical techniques employed in the study of biogeochemistry. May include underwater technology, isotopes/tracers, statistics, and remote sensing. Offered jointly with Chem 805 & Geo Sci 805. 4 lab/field hrs per cr. Retakable w/chg in topic to 6 cr max. Prereq: grad st; cons instr.

899 Advanced Independent Studies. 1-3 cr. G.
Special studies at the graduate level involving independent reading, library research, and/or field for laboratory study other than thesis research. Retakable w/chg in topic to 8 cr max. Prereq: grad st; cons instr.

900 Biology Colloquium. 1 cr. G.
Talks by invited speakers and faculty members on topics of biological interest. Prereq: grad st.

925 Seminar: Molecular and Cell Biology: (Subtitled). 1-2 cr. G.
- Prereq: grad st.

927 Seminar: Population and Community Ecology: (Subtitled). 1 or 2 cr. G.
Carries 1 cr when offered once weekly; carries 2 cr when offered twice weekly. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

928 Seminar: Aquatic Biology: (Subtitled). 1 or 2 cr. G.
Carries 1 cr when offered once weekly; carries 2 cr when offered twice weekly. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

929 Seminar: Behavioral Biology: (Subtitled). 1 or 2 cr. G.
Carries 1 cr when offered once weekly; carries 2 cr when offered twice weekly. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

930 Seminar: Physiology and Endocrinology: (Subtitled). 1 or 2 cr. G.
Carries 1 cr when offered once weekly; carries 2 cr when offered twice weekly. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

931 Seminar: Systematic Biology and Evolution: (Subtitled). 1 or 2 cr. G.
Carries 1 cr when offered once weekly; carries 2 cr when offered twice weekly. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

932 Seminar: Genetics: (Subtitled). 1 or 2 cr. G.
Carries 1 cr when offered once weekly; carries 2 cr when offered twice weekly. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

933 Seminar in Neuroscience. 1 cr. G.
Student presentations in cellular, molecular, and behavioral neuroscience. Retakable to 3 cr max. Bio Sci 933 & Psych 933 are jointly offered; students may enroll under only one of the curricular areas in any single semester. Prereq: grad st in Psych, Bio Sci, or Ed Psych or cons instr

990 Research. 1-5 cr. G.
- Prereq: grad st.

BUSINESS ADMINISTRATION

MBS/MS/MS.MBA
- Phone: (414) 229-5403
- E-mail: mba-ms@uwm.edu

Executive MBA
- Phone: (414) 229-5738
- E-mail: emba@uwm.edu

PhD
- Phone: 229-4542
- E-mail: uwmbusphd@uwm.edu

MHRLR
- Phone: (414) 229-4310
- E-mail: mhrlr@uwm.edu

MS in Nonprofit Management and Leadership
- Phone: (414) 229-3176
- E-mail: lcp@uwm.edu OR jpsmith@uwm.edu

Master of Public Administration
- Phone: (414) 229-4209/4732
- E-mail: dihrke@uwm.edu

Graduate Certificate in State and Local Taxation
- Phone: (414) 229-5403
- E-mail: ssandin@uwm.edu

Graduate Certificate in Nonprofit Management
- Phone: (414) 229-3176
- E-mail: lcp@uwm.edu

MBA-MS in Nursing
- Phone: (414) 229-5474
- E-mail: cvb@uwm.edu

Fax: (414) 229-2372

School/College: Lubar School of Business

Degrees Conferred:

- MBA
- MS in Management
- PhD in Management Science

Overview

The Lubar School of Business offers MBA, MS, MS.MBA, Executive MBA, and PhD graduate degree programs. Joint programs including the MBA-MS Nursing, Master of Human Resources and Labor Relations, MS in Nonprofit Management and Leadership, and Master of Public Administration are offered, as are Graduate Certificates in State and Local Taxation and Nonprofit Management.

The MBA program is an innovative program designed for success in an increasingly complex business environment. The program is a powerful blend of management theory, functional skills, and practical application. It features a flexible structure and a strong selection of specialized elective tracks and concentrations designed to meet career and professional development needs.

The MS in Management program is a unique graduate program designed to develop corporate specialists, offering in-depth knowledge and skills in the following areas of concentration: accounting, eBusiness, finance analysis, management information systems, marketing, professional accounting, and taxation. The program creates an intellectually stimulating learning environment in which students acquire a strong knowledge relevant to their chosen area of concentration and a skill set (critical thinking, analysis, communication) needed for career success.

Lubar School graduate business degree programs are designed to accommodate students with backgrounds in engineering, health care, and the liberal arts and sciences as well as undergraduate majors in business. MBA and MS classes are offered during evening hours to meet the needs of part-time and full-time students and many courses in the MS Professional Accounting program are offered during the day (Full-time students can also take full advantage of the evening scheduling).

The Executive MBA Program is a two-year accelerated program uniquely designed for mid-career managers, executives, professionals, and entrepreneurs. Classes meet one day per week, on alternating Fridays and Saturdays, for maximum flexibility for students and employers.

The PhD program is a rigorous and high-quality, research-oriented program that offers students an opportunity to specialize in one of five management fields: finance, management information systems, marketing, organizations & strategic management, and production/operations management. Individuals completing the program are expected to pursue academic careers in research-oriented schools of management or research careers in public and private enterprises.

The Lubar School of Business and the College of Letters and Science offer a joint degree, the Master of Human Resources and Labor Relations (MHRLR). This master's program offers students an interdisciplinary blend of courses and faculty in the areas of human resources and labor relations. The curriculum prepares students for careers as practitioners and emphasizes a firm grounding in both the liberal arts and business.

The Lubar School of Business and the College of Letters and Science also jointly offer the Master of Public Administration degree, with a curriculum that links coursework from Political Science, Business, Urban Planning, and Economics. This program is designed to prepare students for leadership and management careers in local, state, and national government.

The Graduate Certificate in State and Local Taxation is designed to provide students with the knowledge and skills needed to successfully pursue or advance careers within tax departments of corporations, CPA firms, law firms, and government agencies.

The Graduate Certificate in Nonprofit Management offers students the knowledge and skills needed to pursue or advance careers within nonprofit-sector organizations

Graduate Faculty

Professors

Arnold, Patricia, Ph.D., University of Wisconsin-Madison, CPA
Bender, Bruce, Ph.D., University of Chicago
Cheng, Rita H., Ph.D., Temple University, CPA, A.O. Smith Professor
Fischer, Paul M., Ph.D., University of Wisconsin-Madison, CPA, Jerry Leer Professor
Ghose, Sanjoy, Ph.D., Carnegie-Mellon University
Haseman, William D., Ph.D., Purdue University, Wisconsin Distinguished Professor
Hsu, Der-Ann, Ph.D., University of Wisconsin-Madison
Jain, Hemant, Ph.D., Lehigh University, Wisconsin Distinguished Professor
Mone, Mark, Ph.D., Washington State University, Associate Dean
Ng, Lillian, Ph.D., University of Pensylvania, Hans Storr Professor
Peracchio, Laura, Ph.D., Northwestern University
Prasad, V. Kanti, Ph.D., Michigan State University, Bostrom Professor, Dean
Priem, Richard, Ph.D., University of Texas at Arlington, Manegold Professor
Ragins, Belle, Ph.D., University of Tennessee
Ramamurthy, Keshavamurthy, Ph.D., University of Pittsburgh
Shaffer, Margaret, Ph.D., University of Texas-Arlington, Notebaert Distinguished Chair
Sinha, Atish Ph.D., University of Pittsburgh
Soofi, Ehsan, Ph.D., University of California-Riverside
Zahedi, Fatemeh (Mariam), D.B.A., Indiana University, Wisconsin Distinguished Professor

Associate Professors

Alwan, Layth C., Ph.D., University of Chicago
Bhatnagar, Amit, Ph.D., State University of New York at Buffalo
Freeman, Sarah J., Ph.D., University of Michigan
Haas, Timothy, Ph.D., Colorado State University.
Kim, Yong-Cheol, Ph.D., The Ohio State University

Kimmel, Paul, Ph.D., University of Wisconsin-Madison, CPA
Kozub, Robert, D.B.A., University of Kentucky, CPA
Kren, Leslie, Ph.D., University of Houston, CPA
Levitas, Edward, Ph.D., Texas A&M Universtiy
Marcus, Richard, Ph.D., University of Chicago
Miller, Janice S., Ph.D., Arizona State University
Mukhopadhyay, Samar, Ph.D., University of Texas-Austin
Nazareth, Derek L., Ph.D., Case Western University
Papatla, Purushottam, Ph.D., Northwestern University
Ringberg, Torsten, Ph.D., Pennsylvania State University
Saemann, Georgia, Ph.D., Michigan State University, CPA
Schadewald, Michael S., Ph.D., University of Minnesota, CPA
Srite, Mark, Ph.D., Florida State University
Zhao, Huimin, Ph.D., University of Arizona

Assistant Professors

Berg, David, Ph.D., University of Minnesota
Daugherty, Brian, University of Texas-San Antonion, CPA
Fang, Xiang, Ph.D., Case Western Reserve University
Goranova, Maria, Ph.D., Syracuse University
Haines, Marc, Ph.D., University of Georgia
Hsu, Hung-Chia (Scott), Ph.D., University of North Carolina-Chapel Hill
Kao, Yi-Ching, Ph.D. University of Texas-Dallas
Li, Sali, Ph.D., University of Utah
Nikolaeva, Ralitza, Ph.D., Purdue University
Reeves, Terrie C., Ph.D., University of Alabama at Birmingham
Sibilkov, Valeriy, Ph.D., Purdue University
Singh, Romila, Ph.D., Drexel University
Yang, Xiaojing, Ph.D., Indiana University

Master of Business Administration

Admission

An applicant must meet Graduate School requirements plus the following program requirements to be considered for admission:

- A bachelor's degree from an accredited college or university.
- Submission of score on the Graduate Management Admission Test (GMAT).
- Review by the MBA Program Committee to assess academic achievement and the ability to do intensive graduate-level work.

MBA foundation coursework provides the basis for the theory and practice of business. This coursework is required for those entering the program without prior equivalent coursework and consists of 9 credits (4 courses);

- Bus Adm 700 Building Business Interfacing Skills (2 cr)
- Bus Adm 701 Business Mathematics (2 cr)
- Bus Adm 702 Business Statistics (2 cr)
- Bus Adm 703 Financial Accounting (3 cr)

This coursework is waived for individuals who have completed equivalent coursework. Credits earned in these courses do not count toward the degree. Students also are assumed to have basic proficiency in the use of word processing, spreadsheet, and database software.

Major Professor as Advisor

The student in the MBA program is not assigned an advisor or major professor. Questions about the student's program of study, courses or regulations should be directed to Lubar School Graduate Program Services Office, Lubar N251, (414)229-5403.

Credits and Courses

The degree requirements for the Master of Business Administration degree are 36 or 39 credits without a career focused concentration, or 39-42 credits with a career focused concentration. Students with a BBA degree and a major in accounting, finance, management, marketing, management information systems, or production/operations management will be waived from the 3-credit core course that corresponds to their major field of study. Students with a double undergraduate major may be waived from two core courses, but must substitute three elective credits to maintain the minimum 36 graduate credits.

MBA Core - 24 or 27 credits

- Bus Mgmt 704 Accounting Analysis and Control
- Bus Mgmt 705 Corporate Finance
- Bus Mgmt 706 Managing in a Dynamic Environment
- Bus Mgmt 707 Information Technology for Competitive Advantage
- Bus Mgmt 708 Marketing Strategy: Concepts and Practice
- Bus Mgmt 709 Data Analysis for Management Applications
- Bus Mgmt 710 Economic Analysis for Managers
- Bus Mgmt 711 Competitive Operations Strategy
- Bus Mgmt 712 Strategic Management*

*Integrating course

Bus Mgmt 712 Strategic Management is the program capstone course. All other MBA core courses must be successfully completed prior to enrolling in Bus Mgmt 712.

Electives

Students in the MBA program have two options for completion of elective credits. The first route is to complete an approved 12 credit elective track or seek approval to customize an elective track. The first route requires a total of 36-39 degree credits. The second option is to choose a career focused concentration, completion of which will be documented on their transcript. This route will require the completion of 15 elective credits increasing the total number of degree credits to 39-42. See http://www4.uwm.edu/business for additional details.

Thesis

Not required.

Comprehensive Examination

Not required.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Executive MBA Program

Admission

Applicants for the Executive MBA Program must meet Graduate School requirements and additional program standards as specified below:

- Eight or more years of management experience and nomination of the employing organizations.
- Applicants are reviewed by the Master's Program Committee of the Lubar School of Business. The admission recommendations are based upon:
  - Academic achievement and ability to do intensive graduate-level work
  - Nature of managerial experience
  - Contribution to the varied skills of the class
  - Ability and willingness of the individual and the employer to make a two-year commitment to the program.
- Academic achievement and ability to do intensive graduate-level work
- Nature of managerial experience
- Contribution to the varied skills of the class
- Ability and willingness of the individual and the employer to make a two-year commitment to the program.
- Proof of competency in the four foundation requirement areas of financial accounting, macroeconomics, mathematics review, and team building and business communications through

coursework, or through examinations as approved by the Master's Program faculty committee. Students are also assumed to have basic proficiency in the use of word processing, spreadsheet, presentation, and Web-browsing software.

Major Professor as Advisor

The student in the Executive MBA Program is not assigned an advisor or major professor. Questions about the student's program of study, courses or regulations should be directed to Graduate Program Services, Lubar N251, (414) 229-5403.

Credits and Courses

Students admitted to the Executive MBA Program will take the following sequence of courses.

Required Courses - 39 credits

- Bus Mgmt 704 Accounting Analysis and Control
- Bus Mgmt 705 Corporate Finance
- Bus Mgmt 707 Information Technology for Competitive Advantage
- Bus Mgmt 708 Marketing Strategy: Concepts and Practice
- Bus Mgmt 709 Data Analysis for Management Applications
- Bus Mgmt 711 Competitive Operations Strategy
- Bus Mgmt 712 Strategic Management
- Bus Mgmt 714 Managing People and the Role of General Managers
- Bus Mgmt 716 International Business Management & Residence
- Bus Adm 732 Transforming Organizations
- Bus Adm 752 Corporate Economics
- Bus Adm 795 Seminar-in-Management (6 credits to be completed, e.g. Leadership, Legal Issues, New Business Ventures, etc.)

Thesis

Not required.

Comprehensive Examination

Not required.

Master of Science in Management

Admission

An applicant must meet Graduate School requirements plus the following program requirements to be considered for admission:

- A bachelor's degree from an accredited college or university.
- Submission of score on the Graduate Management Admission Test (GMAT).
- . Review by the Master of Science Program Committee to assess academic achievement and ability to do intensive graduate level work.

Applicants admitted to the MS program may be required to complete management foundation courses. Individual areas of concentration require different foundation courses. (See Lubar School of Business MBA/MS brochure and the Lubar School of Business Web site for details http://www4.uwm.edu/business.) Foundation courses will be waived if students have completed equivalent coursework. Credits earned in these courses do not count toward the degree.

Students select the area of concentration most suited to their educational goals. The areas of concentration in the program are: accounting (first professional degree-open only for students with non-accounting majors at baccalaureate level); professional accounting (program open to students who have completed an undergraduate degree in accounting); eBusiness; finance analysis; management information systems; marketing; and taxation.

Major Professor as Advisor

Students in the MS program must choose a major professor during the first ten weeks of their first semester of graduate enrollment to advise and supervise their studies. A listing of faculty by area of interest is sent to each MS student to aid in their selection of a major professor. This list is also available in the Graduate Programs Services office, Lubar N251.

If a student is waived out of a required course, an approved elective course must be substituted in its place and approved by Graduate Program Services (Lubar N251).

The major professor, in consultation with the student, reviews the student's academic background and career goals and designs an appropriate program of study consistent with degree requirements. In developing a program of study for a student who has no undergraduate background in business administration, care is taken to ensure a basic exposure to different aspects of the management field as well as an in-depth preparation in the chosen field of specialization.

Credits and Courses

The minimum degree requirement for the Master of Science in Management degree concentrations varies from 30-33 graduate credits. In the 30-credit concentrations, at least 18 credits must be taken in the Lubar School of Business.

Electives provide distinction to each individual program. Through proper selection and packaging, each student can design a program to meet individual educational objectives while maintaining a high degree of academic strength. These courses may be selected from the many available in the Lubar School of Business, or from among those offered in graduate programs of other UWM departments.

Students in the MS program have the option of doing a management research project. This option gives students the opportunity to apply methodological techniques and area studies. The urban location and strong ties with the business sector provide opportunities for student projects.

The distribution of coursework required in different areas of concentration is as follows:

Accounting - 30 credits

Core Courses (27 credits)

- Bus Adm 406 Income Tax Accounting II
- Bus Adm 408 Accounting Information Systems
- Bus Adm 722 Advanced Financial Accounting Theory
- Bus Adm 724 Business Combinations and Governmental Accounting
- Bus Adm 725 Strategic Cost Management I
- Bus Adm 726 Strategic Cost Management II
- Bus Adm 728 Auditing Theory and Applications
- Bus Adm 753 Advanced Business Law
- Bus Adm 821 Business Taxation

Electives (3 credits)

- Bus Adm 840 Current Issues in Financial Reporting
- Bus Adm 841 Financial Statement Analysis
- Bus Adm 843 International Accounting Theory and Practice
- Bus Adm 848 Professional Accounting Practice
- Bus Adm 849 Accounting Internship

Professional Accounting - 30 credits

Core Courses (15 credits)

- Bus Adm 724 Business Combinations and Governmental Accounting
- Bus Adm 726 Strategic Cost Management II
- Bus Adm 753 Advanced Business Law
- Bus Adm 821 Business Taxation
- Bus Adm 844 Auditing: Professional Standards and Practices

Complete one of the following two tracks:

Financial Track (15 credits)
Required (9 credits)

- Bus Adm 840 Current Issues in Financial Reporting
- Bus Adm 841 Financial Statement Analysis

- Bus Adm 843 International Accounting Theory and Practice
- *Electives - Choose at least two courses (6 credits)*
- Bus Adm 747 Systems Analysis and Design
- Bus Adm 749 Data Management Systems
- Bus Adm 771 Investments
- Bus Adm 774 Global Financial Management
- Bus Adm 775 Financial Strategy
- Bus Adm 778 Financial Institutions and Markets
- Bus Adm 848 Professional Accounting Practice

Taxation Track (15 credits)
Required (12 credits):

- Bus Adm 820 Tax Research, Practice, and Procedure
- Bus Adm 823 Corporate Income Taxation
- Bus Adm 826 Tax Planning for Individuals
- Bus Adm 828 Taxation of Partnerships, S Corporations, and LLCs

Electives - Choose at least one courses (3 credits):

- Bus Adm 840 Current Issues in Financial Reporting
- Bus Adm 841 Financial Statement Analysis
- Bus Adm 843 International Accounting Theory and Practice
- Bus Adm 848 Professional Accounting Practice

eBusiness - 31 Credits

Core Courses - 25 credits

- Bus Adm 747 Systems Analysis & Design
- Bus Adm 783 Supply Chain Management
- Bus Adm 890 Introduction to Electronic Business
- Bus Adm 891 Development of Electronic Business Applications
- Bus Adm 893 Infrastructure for Electronic Business
- Bus Adm 894 Internet Marketing
- Bus Adm 895 Strategic Marketing Issues in eBusiness
- Bus Adm 897 eBusiness Practicum (4 cr)*

* Integrating course

Approved Electives - 6 credits

- See www4.uwm.edu/business for additional details.

Finance Analysis - 33 Credits

Core Courses - 21 credits

- Bus Adm 721Financial Accounting Theory
- Bus Adm 751 Analysis of U.S. Business Environment
- Bus Adm 771 Investments
- Bus Adm 775 Financial Strategy*
- Bus Mgmt 705 Corporate Finance
- Bus Mgmt 709 Data Analysis for Management Applications OR Bus Adm 754 Statistical Analysis
- Bus Mgmt 710 Economic Analysis for Managers

* Integrating course

Elective Courses - 12 credits from the following

- Bus Adm 713 Business Forecasting Methods
- Bus Adm 772 Portfolio Management
- Bus Adm 773 Options and Futures
- Bus Adm 774 Global Financial Management
- Bus Adm 777 Advanced Corporate Finance
- Bus Adm 778 Financial Institutions and Markets
- Bus Adm 779 Fixed Income Securities
- Bus Adm 795 Seminar in Management - Finance Topic

Management Information Systems - 30 Credits

Core Courses - 21 credits

- Bus Adm 740 Management Information Systems Concepts and Languages
- Bus Adm 744 Management of Information Systems
- Bus Adm 747 Systems Analysis and Design
- Bus Adm 748 Information Technology Project Management*
- Bus Adm 749 Data Management Systems
- Bus Adm 812 Emerging Information Technologies
- Bus Adm 813 Object-Oriented and Visual Paradigms

* Integrating course

Elective Courses - 9 credits from the following:

- Bus Adm 741 Decision Support Systems and Groupware
- Bus Adm 746 Topics in Management Information Systems
- Bus Adm 811 Business Reengineering Through Information Technology
- Bus Adm 814 Intelligent Systems for Business
- Bus Adm 819 Management Information Systems Internship
- Bus Adm 890 Introduction to Electronic Business
- Bus Adm 891 Development of Electronic Business Applications
- Bus Adm 893 Infrastructure for Electronic Business
- Bus Adm 899 Management Research Project/Thesis

Marketing - 30 Credits

Core Courses - 15 Credits

- Bus Adm 762 Marketing Research
- Bus Adm 764 Consumer Behavior
- Bus Adm 765 Strategic Product and Brand Management*
- Bus Mgmt 708 Marketing Strategy: Concepts and Practice
- Bus Mgmt 709 Data Analysis for Management Applications

* Integrating course.

Elective Courses - 15 credits from the following:

- Bus Adm 761 Seminar in Marketing (current topics)
- Bus Adm 766 Marketing for Non-Profit Organizations
- Bus Adm 768 Marketing Management
- Bus Adm 806 International Marketing
- Bus Adm 894 Internet Marketing
- Bus Adm 895 Strategic Marketing Issues in eBusiness
- Bus Adm 899 Management Research Thesis/Project

Taxation - 30 Credits

Core Courses - 21-24 credits

- Bus Adm 406 Income Tax Accounting II
- Bus Adm 820 Tax Research, Practice and Procedure
- Bus Adm 823 Corporate Income Taxation
- Bus Adm 826 Tax Planning for Individuals
- Bus Adm 827 Taxes and Business Strategy*
- Bus Adm 828 Taxation of Partnerships, S Corporations, and LLCs
- Bus Adm 831 Multistate Income Taxation
- Bus Adm 834 International Taxation

*Integrating course

Elective Courses - 6-9 credits from the following:

- Bus Adm 825 Estate Planning
- Bus Adm 829 Executive Compensation and Benefits
- Bus Adm 832 Property Taxation
- Bus Adm 837 Sales and Use Taxation
- Bus Adm 838 Managing State and Local Audits
- Bus Adm 839 Topics in Taxation
- Other approved graduate business courses (maximum of 9 credits)

The Management Research Project/Thesis

The Management Research Project/Thesis is a variable 2-6 credit management research project.

Comprehensive Examination

Students must pass a final oral examination if they choose a 4-6-credit management research project or thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment. In areas of concentration in which the total number of degree credits required exceeds 30, the student must complete all

degree requirements within seven years of initial enrollment.

MS.MBA Program

This coordinated degree program combines the degree requirements of the MBA and MS-MIS concentration. The combination of MBA core courses and MIS courses (including some eBusiness courses) prepares graduates for managerial positions in IT organizations or for IT-related functions within organizations. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree.

Credits and Courses

From the MBA program (24 credits)

- Bus Mgmt 704 Accounting Analysis and Control
- Bus Mgmt 705 Corporate Finance
- Bus Mgmt 706 Managing in a Dynamic Environment
- Bus Mgmt 708 Marketing Strategy: Concepts and Practice
- Bus Mgmt 709 Data Analysis for Management Applications
- Bus Mgmt 710 Economic Analysis for Managers
- Bus Mgmt 711 Competitive Operations Strategy
- Bus Mgmt 712 Strategic Management

From the MS-MIS area of concentration (21 credits)

- Bus Adm 740 MIS Concepts and Languages
- Bus Adm 744 Management of Information Systems
- Bus Adm 747 Systems Analysis and Design
- Bus Adm 748 Information Technology Project Management
- Bus Adm 749 Data Management Systems
- Bus Adm 812 Emerging Information Systems
- Bus Adm 813 Object-Oriented and Visual Paradigms

Elective Courses (9 credits)

Please refer to www.uwm.edu/Business/programs for a comprehensive listing of elective courses.

Doctor of Philosophy in Management Science

Admission

Applicants must meet Graduate School requirements plus the following program requirements to be considered for admission to the program:

- A bachelor's degree from an accredited college or university. Almost all applicants admitted, however, are master's degree holders.
- Substantial evidence of scholarly potential and commitment.
- Submission of score on either the Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE).
- Two letters of recommendation in support of the candidate's competence to do doctoral work.
- A written statement from the applicant stating reasons for pursuing PhD level study and an indication of the major field to be studied.

Applicants are expected to have adequate preparation at the undergraduate or graduate level equivalent to one semester each of coursework in calculus, statistics, and linear algebra. Applicants who do not have the above background must complete equivalent courses. Specific courses from the Lubar School of Business or from departments outside the School will be suggested to satisfy preparation in these areas. These courses do not count toward credit requirements for the degree. As some areas of study admit students for alternating academic years, please review the following Lubar School of Business Web site: http://www4.uwm.edu/business/programs/phd/info.cfm.

Reapplication

A student who has received a master's degree in Business Administration from the University of Wisconsin-Milwaukee must formally reapply for admission to the Graduate School before beginning studies toward the PhD degree.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. Within the first semester, the student arranges for assignment to an advisor within the student's specialization.

Course of Study

Minimum degree requirement is 54 credits beyond the bachelor's degree, of which a minimum of 34 credits must be earned in residence at UWM beyond the master's level.

The student plans an individual program of studies in consultation with the major professor. The program has no formal language requirement but the student is responsible for familiarity with published literature in the area of the student's research. All students will also be required to complete an "Orientation to Teaching and Research" course.

Stage 1

The first stage of the student's program includes general preparation in a common core of knowledge. Students will be required to validate exposure to functional business areas: accounting, finance, information systems, marketing, and management. Method of validation is to be decided by the advisor and faculty from the major field area.

Stage 2

The second stage of the program consists of a required research methods component to be satisfied by a minimum of 12 credits from a recommended list of research methods courses.

Stage 3

The third stage of the program consists of coursework and research in the major and minor fields of study as specified in the student's program of studies. Coursework must include a minimum of 12 credits in the student's major field and a minimum of 9 credits in the student's minor field of study.

As a first step in developing a research focus, PhD students are required to submit a paper by the end of their third semester to be presented at a research seminar, conference, or an on-campus seminar that includes at least two faculty members from their department.

If a student fails to complete the research paper requirement, he/she will be subject to dismissal from the doctoral program for lack of progress toward degree.

Residence

The student must meet minimum Graduate School residence requirements.

Doctoral Preliminary Examinations

The student must pass written doctoral preliminary examinations in the major field of study. Minor field requirements include completing approved coursework with a specified grade point average or passing a written examination as specified by the appropriate department. A student is admitted as a candidate for the PhD degree after successful completion of the doctoral preliminary examinations.

Dissertation

The candidate must write a dissertation that demonstrates ability to formulate a research topic and pursue independent and original investigation.

Dissertation Defense

A formal oral defense of the dissertation by the student and certification of the dissertation by the dissertation committee are necessary steps to complete the degree requirements.

Time Limit

All degree requirements must be completed within 10 years from the date of initial enrollment in the doctoral program.

Additional information on Graduate School PhD requirements is in the Doctoral Student and Advisor Manual.

Master of Business Administration-MS Nursing

The Lubar School of Business and the University of Wisconsin-Milwaukee College of Nursing collaboratively offer a program designed to provide a combined nursing and business curriculum to strengthen the graduate's performance as a leader and manager in nursing and health care administration.

Admission

Students are admitted to both the University of Wisconsin-Milwaukee graduate programs in nursing and business administration. The admission requirements are consistent with those specified by the UWM Graduate School, College of Nursing and Lubar School of Business. Students may choose to complete either the GMAT or GRE and must have a BS in nursing degree and at least two years practice in a health care setting. Three letters of reference are required including one from a former faculty and one from a health care employer. Students must also complete foundation business courses either prior to admission to the program or during completion of the degree program (Bus Adm 700 Building Business Interfacing Skills, 2 cr.; Bus Adm 701 Business Mathematics, 2 cr.; Bus Adm 702 Business Statistics, 2 cr., and Bus Adm 703 Financial Accounting, 3 cr.)

Credits and Courses

Students accepted into the MS/MBA program complete the following courses

Nursing (19 Credits)

Core Courses

- NURS 725 Nursing Research and Knowledge Generation, 3cr
- NURS 735 Theoretical Foundations of Advanced Nursing Practice, 3 cr
- NURS 784 Advanced Nursing Practice Interventions, 3 cr
- NURS 750 Evaluation of the Quality of Health Care, 3 cr
- NURS 770 Nursing Administration, 3 cr
- NURS 771 Nursing Administration Practicum, 3 cr
- NURS 727 Epidemiology, 3 cr
- NURS 729 Health Care Systems, 3 cr
- NURS 991 Research and Thesis (Clinical Project), 1 cr

Business (33 Credits)

- BusMgmt 704 Accounting Analysis and Control, 3 cr
- BusMgmt 705 Corporate Finance, 3 cr
- BusMgmt 706 Managing in a Dynamic Environment, 3 cr
- BusMgmt 707 Information Technology for Competitive Advantage, 3 cr
- BusMgmt 708 Marketing Strategy: Concepts and Practice, 3 cr
- BusMgmt 709 Data Analysis for Management Applications, 3 cr
- BusMgmt 710 Economic Analysis for Managers, 3 cr
- BusMgmt 711 Competitive Operations Strategy, 3 cr
- BusMgmt 720 Strategic Management in Health Care Organizations OR
- BusMgmt 712 Strategic Management**, 3 cr
- **BusMgmt 720 or Bus Mgmt 712 is the designated integrating course for the coordinated degree program.
- Electives - 6 Credits
- Six additional graduate business courses (refer to http://www4.uwm.edu/business/programs/busmasters/mba/track.cfm). Students are recommended to consider Bus Adm 727, 755, and Bus Mgmt 757.

Dually Applied Courses (6 Credits)

6 credit hours from the College of Nursing that will apply to both degrees

- NURS 727 Epidemiology, 3 cr
- NURS 729 Health Care Systems, 3 cr

Total Program

For the coordinated degree program, students will complete 58 credit hours. A student not completing the requirements for the coordinated degree program would need to complete all requirements for an individual program—MS in Nursing or MBA—in order to receive a degree.

Comprehensive Clinical Project

The student will complete a comprehensive clinical project.

Time Limit

Students in the coordinated MS/MBA degree program must complete all degree requirements within seven years of the first enrollment semester as a degree student.

Master of Human Resources and Labor Relations

The Lubar School of Business and the College of Letters and Science offer and confer jointly the master's degree in Human Resources and Labor Relations (MHRLR).

Admission

An applicant must meet Graduate School requirements plus the following requirements to be considered for admission to the MHRLR program:

- Submission of GRE or GMAT scores and two letters of recommendation to the MHRLR program.
- Students admitted to the program will be expected to present at least three credits of prior work in microeconomics and fulfill prerequisite requirements in statistics for either BusMgmt 709 or Economics 310.
- Students who are deficient in the areas of microeconomics or statistics at the time of admission (see above) will be expected to satisfy deficiency requirements within three enrolled semesters. Deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.
- Applicants are reviewed by the MHRLR admissions committee to assess academic achievements and the ability to do intensive graduate-level work.

Major Professor as Advisor

A student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The student will be assigned an advisor matched by area of professional interests from the Program Faculty by the MHRLR coordinating committee during or prior to the first 10 weeks of enrollment in the program.

The major professor, in consultation with the student, reviews the student's academic background and career goals and designs an appropriate program of study consistent with degree requirements. In developing a program of study for a student who has no undergraduate background in either human resources or labor relations, care is taken to ensure a balanced exposure to different aspects of the field as well as an in-depth preparation for the student's particular goals.

Credits and Courses

The Master of Human Resources and Labor Relations degree will be awarded upon completion of 36 credits of prescribed graduate study and appropriate prerequisite course work. The program offers a balance between liberal arts and business-based education, requiring that at least 15 credits be taken within the College of Letters and Science and at least 15 credits be taken within the Lubar School of Business.

The degree requires completion of 18 credits in core courses that provide each student with a

solid grounding in both labor relations and human resources while permitting some specialization according to student interests.

Core Courses (18 Credits)
- Ind Rel 701 Industrial and Labor Relations
- Bus Mgmt 706 Managing in a Dynamic Environment
- Bus Adm 735 Staffing Organizations
- Bus Adm 738 Human Resources Management
- Econ 415 Economics of Employment Relations or Econ 753 Collective Bargaining
- Ind Rel 712 Employment Law or Ind Rel 711 Labor Relations Law

If Econ 415 and Econ 753 are both taken, one of these may be used to help fulfill elective requirements. If Ind Rel 711 and Ind Rel 712 are both taken, one of these may be used to help fulfill elective requirements.

To ensure a well-rounded education, students are required to fulfill the remainder of the 15-credit requirement within the College of Letters and Science and within the Lubar School of Business by selecting from a list of approved elective courses from within each organization. As part of these elective courses, students are required to take a statistics course, either BusMgmt 709 or Econ 310 (but not both). A student may, with advisor approval, fulfill the 36-credit requirement by taking up to 6 credits from the approved list of alternative electives in other schools such as the College of Nursing, the School of Education, and the School of Social Welfare. No student will be permitted to apply more than nine credits taken at the U/G level toward meeting MHRLR degree requirements.

Elective Courses
- Please refer to www.uwm.edu/Dept/MHRLR for a comprehensive listing of elective courses.

Students without prior experience in the field are encouraged to take advantage of the program's extensive contacts in the business and labor communities by undertaking one or more internships as either Bus Adm 899 or Ind Rel 921. Students may also utilize the wide range of faculty expertise available within the program for a major research paper on a human resources or labor relations topic. These papers, under the direction of a faculty advisor, are taken as either Ind Rel 801 or Bus Adm 899. A student may graduate with honors from the MHRLR program by maintaining a 3.5 grade-point average within the program, and by writing a 3-credit major research paper (under Bus Adm 899 or Ind Rel 801).

See the Master of Human Resources and Labor Relations section of the Bulletin for more information.

Master of Science in Nonprofit Management and Leadership

Admission

To be admitted to the M.S. in Nonprofit Management and Leadership degree program, an applicant must meet Graduate School requirements.

During the admissions process, students will be asked to show evidence of having satisfactorily completed undergraduate or higher level foundation coursework in the principles of accounting and economics. Those students who are unable to show such evidence may be admitted with these academic deficiencies but will then meet with their respective academic advisors to identify and obtain approval for what they must do to remove these deficiencies.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Applicants must submit the following for review by the Graduate School and the Nonprofit Management Program Faculty Committee:

1. Official transcripts from all colleges or universities previously attended.
2. Three letters of recommendation from persons familiar with the applicant's academic ability and/or professional achievements.
3. Scores from either the Graduate Record Examination (GRE) or the Graduate Management Admissions Test (GMAT).
4. For those students whose native language is not English, minimum TOEFL score (Test of English as a Foreign Language) of 213 (CBT) or IELTS score (International English Language Testing System) of 6.5.
5. Each student's academic preparation is evaluated at the time of application. A personal interview may be required.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at the time of admission should immediately contact the Program Director.

Credits and Courses

The M. S. in Nonprofit Management and Leadership degree requires satisfactory completion of 39 credits of graduate-level course work including 27 credit-hours of required or "constrained choice" courses and 12 credit-hours of elective courses as follows:

Required Courses (27 Credits)

Introductory Course (3 cr)
- *One of the following three courses (students may not receive credit toward the degree for more than one of these courses)*
- BusMgmt 718 Concepts and Practice of Nonprofit Management
- Pol Sci 789 Theory and Role of Nonprofit Organizations
- Sociol/Pol Sci/Urb Std 704 Seminar in Nonprofit Organizations

Core Courses (21 credits)
- BusMgmt 721 Fundraising and Development for Nonprofit Organizations
- BusMgmt 724 Accounting for Nonprofit Organizations
- BusMgmt 725 Governance and Executive Leadership of Nonprofit Organizations
- Pol Sci 792 Decision-Making Methods for Nonprofit and Public Organizations
- Pol Sci 793 Law of Nonprofit Organizations
- *One of the following three courses:*
- Bus Adm 766 Marketing for Nonprofit Organizations
- Pol Sci 705 Professionals and Volunteers in Nonprofit Organizations
- Pol Sci 791 Nonprofit Advocacy and Public Policy
- *One of the following eight courses:*
- AdmLdsp 777 Leadership in Multicultural Organizations
- Bus Adm 441 Diversity in Organizations
- Bus Adm 733 Organizational Development
- BusMgmt 706 Managing in a Dynamic Environment
- BusMgmt 707 Information Technology for Competitive Advantage
- Pol Sci 958 Seminar in Public Administration: Managing Change in Public and Nonprofit Organizations
- Sociol 732 Complex Organizations
- Sociol 780 Race and Ethnic Relations

Capstone Course (3 cr)
- BusMgmt 730 Strategic Management and Leadership for Nonprofit Organizations. This course will serve as the integrative "capstone" requirement for the program and must be taken after completing all other required courses (or concurrently with the final required courses).

Elective Courses (12 credits)

Additional courses may be approved as electives; see program office for complete list.
- AdmLdsp 777 Leadership in Multicultural Organizations (if not selected above)
- Bus Adm 441 Diversity in Organizations (if not selected above)

- Bus Adm 733 Organizational Development (if not selected above)
- Bus Adm 737 Managerial Decisions and Negotiations
- Bus Adm 738 Human Resources Management
- Bus Adm 766 Marketing for Nonprofit Organizations (if not selected above)
- BusMgmt 706 Managing in a Dynamic Environment (if not selected above)
- BusMgmt 707 Information Technology for Competitive Advantage (if not selected above)
- BusMgmt 709 Data Analysis for Management Applications
- BusMgmt 710 Economic Analysis for Managers
- BusMgmt 715 Leadership, Teambuilding, and Effective Management
- Pol Sci 705 Professionals and Volunteers in Nonprofit Organizations (if not selected above)
- Pol Sci 769 Analyzing and Evaluating Public Policies and Programs
- Pol Sci 791 Nonprofit Advocacy and Public Policy (if not selected above)
- Pol Sci 958 Seminar in Public Administration: Managing Change in Public and Nonprofit Organizations (if not selected above)
- Sociol 443 Organizations, Occupations, and Professions
- Sociol 705 Theory and Method in Social Organizations
- Sociol 732 Complex Organizations (if not selected above)
- Sociol 780 Race and Ethnic Relations (if not selected above)
- Soc Wrk 794 Advanced Research Methods: Evaluating Social Welfare Programs (2 crs)
- Urb Std 720 Theory and Method in Local Economic Development
- Urb Std 725 Methods of Urban Community Development
- Urb Std 733 Public Program Evaluation

Total Degree Credits Required: 39 credit hours

Thesis

Not Required

Comprehensive Examination

Not Required

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Courses

Descriptions of required and elective courses offered at UWM as part of the M.S. in Nonprofit Management and Leadership can be found under the respective curricular areas (see below).

- Business Management (Bus Mgmt)
- Political Science (Pol Sci)
- Business Administration (Bus Adm)
- Sociology (Sociol)
- Urban Studies (Urb St)
- Administrative Leadership (Ad Ldsp)

Master of Public Administration

The Master of Public Administration program is designed to prepare students for leadership and management roles in local, state, and national government. Jointly offered by the Lubar School of Business and the College of Letters and Science, this professional degree program includes applied work in several related disciplines: Business, Political Science, Urban Planning, and Economics. The conceptual and analytical skills developed through this curriculum are critical to the effective management of public agencies and programs.

Credits and Courses

Core Courses (21 credits)

- BusMgmt 709 Data Analysis for Management Applications
- Bus Adm 738 Human Resource Management
- PolSci/Urb Plan 630 Budgeting and Finance in the Public Sector
- Pol Sci 763 Scope and Dynamics of Public Administration
- Pol Sci 769 Analyzing and Evaluating Public Policies and Programs
- Pol Sci 921 Government/Nonprofit Administrative Leadership
- *One seminar in organizational management and leadership:*
- Bus Adm 443 Special Topics in Human Resources Management
- Bus Mgmt 706 Managing in a Dynamic Environment
- Bus Adm 737 Managerial Decisions and Negotiations

Concentration and Elective Courses (12-15 credits)

- Courses in the concentrations and elective course information can be found at the following Web site: www.uwm.edu/Dept/MPA

Capstone Seminar (3 credits)

- Pol Sci 959 Capstone Seminar in Public Administration

Certificate in State and Local Taxation

The Certificate program in State and Local Taxation is designed to provide students with the knowledge and skills needed to successfully pursue or advance careers within tax departments of corporations, CPA firms, law firms, and government agencies.

Students wishing to earn a Certificate in State and Local Taxation must be admitted as a non-degree graduate student in the Lubar School of Business at the University of Wisconsin-Milwaukee or enrolled in a master's degree program in the Lubar School of Business.

Students wishing to earn the Certificate must complete the required 12 graduate credit hours with an overall GPA of 3.0 or better.

Required Courses

- Bus Adm 831 Multistate Income Taxation
- Bus Adm 832 Property Taxation
- Bus Adm 837 Sales and Use Taxation
- Bus Adm 838 Managing State and Local Tax Audits

Students who wish to earn the certificate in State and Local Taxation and are not enrolled in a Lubar School graduate degree program at UWM can be admitted as business non-degree graduate students provided they meet the following requirements:

1. A bachelor's or higher degree with an overall GPA of 2.75 or better.
2. Background including one or more of the following: a bachelor's or master's degree in accounting, a master's degree in taxation, a law degree, a CPA certification, and relevant work experience in the accounting or tax area.

Admission as a non-degree graduate student in business does not constitute admission to a master's degree program in the Lubar School of Business.

A maximum of one three-credit course from another institution would be considered for transfer to the certificate.

There is a time limit of four years from initial enrollment for completion of the certificate.

Students wishing to obtain the Certificate in State and Local Taxation must declare their intention by applying to the Lubar School of Business Graduate Program Services office, Lubar N251. After completing the program requirements, a Certificate in State and Local Taxation will be awarded by the Lubar School of Business.

Graduate Certificate In Nonprofit Management

The Graduate Certificate in Nonprofit Management is designed to provide students with the knowledge and skills needed to successfully pursue or advance careers within nonprofit sector organizations.

Students wishing to earn a Graduate Certificate in Nonprofit Management must complete the required 15 graduate credit hours with an overall GPA of 3.00 or better. No student may complete all 15 credits within a single school or college. The curriculum consists of the following five courses:

Required Courses (12 credits)
One of the following three courses:
- BusMgmt 718 - Concepts and Practice of Nonprofit Management (3 credits)
- Poli Sci 789 - Theory and Role of Nonprofit Organizations (3 credits)
- Sociol/Pol Sci/Urb Std 704 - Seminar in Nonprofit Organizations (3 credits)

Both of the following two courses:
- BusMgmt 724 - Accounting for Nonprofit Organizations (3 credits)
- BusMgmt 725 - Governance and Executive Leadership of Nonprofit Organizations (3 credits)

One of the following three courses:
- Bus Adm 766 - Marketing for Nonprofit Organizations (3 credits)
- BusMgmt 721 - Fundraising and Development for Nonprofit Organizations (3 credits)
- Pol Sci 705 - Professionals and Volunteers in Nonprofit Organizations (3 credits)

Elective Courses (3 credits)
- Ad Ldsp 777 Leadership in Multicultural Organizations
- Bus Adm 441 Diversity in Organizations
- Bus Adm 733 Organizational Development
- Bus Adm 737 Managerial Decisions and Negotiations
- Bus Adm 738 Human Resources Management
- Bus Adm 766 Marketing for Nonprofit Organizations (if not selected above)
- BusMgmt 706 Managing in a Dynamic Environment
- BusMgmt 707 Information Technology for Competitive Advantage
- BusMgmt 709 Data Analysis for Management Applications
- BusMgmt 710 Economic Analysis for Managers
- BusMgmt 715 Leadership, Teambuilding and Effective Management
- BusMgmt 721 Fundraising and Development for Nonprofit Organizations (if not selected above)
- Pol Sci 705 Professionals and Volunteers in Nonprofit Organizations (if not selected above)
- Pol Sci 769 Analyzing and Evaluating Public Policies and Programs
- Pol Sci 791 Nonprofit Advocacy and Public Policy
- Pol Sci 792 Decision Making Methods for Nonprofit and Public Organizations
- Pol Sci 793 Law of Nonprofit Organizations
- Pol Sci 958 Seminar in Public Administration: Managing Change in Public and Nonprofit Organizations
- Sociol 443 Organizations, Occupations, and Professions
- Sociol 705 Theory and Method in Social Organizations
- Sociol 732 Complex Organizations
- Sociol 780 Race and Ethnic Relations
- Soc Wrk 794 Advanced Research Methods: Evaluating Social Welfare Programs (2cr)
- Urb Std 720 Theory and Method in Local Economic Development
- Urb Std 725 Methods of Urban Community
- Urb Std 733 Public Program Evaluation
- Other courses with the approval of the Program Director

Students wishing to pursue the Certificate in Nonprofit Management must submit an application to the Program before completion of six credits in the certificate sequence. There is a time limit of three years from initial enrollment for completion of the certificate program.

Those students who wish to earn the Graduate Certificate in Nonprofit Management can be admitted for the certificate program as non-degree graduate students provided they possess a bachelor's or higher degree with a minimum overall undergraduate grade point average of 2.75. Admission as a non-degree graduate student does not constitute admission to a master's degree program. Students may also pursue the certificate while enrolled in another graduate program or as a post-graduate student.

Courses - Business Administration

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

405 Income Tax Accounting I. 3 cr. U/G.
Introduction to tax issues inherent in business and financial transactions, with an emphasis on the federal individual and corporate income tax. Prereq: jr st (excluding Pre-Bus Adm srs & Univ Special Students with no undergrad degree); a grade of 'C' or better in Bus Adm 301(205)(P); or grad st & Bus adm 721(P).

406 Income Tax Accounting II. 3 cr. U/G.
Application of framework developed in Income Tax Accounting I (Bus Adm 405) to more thoroughly analyze the taxation of business entities. Prereq: jr st (exc Pre-Bus Adm sr); Bus Adm 405(P).

408 (308) Accounting Information Systems. 3 cr. U/G.
Introduction to accounting information systems and related technology, principles of accounting systems design, internal controls and coverage of commercial accounting software packages. Prereq: jr st (excluding Pre-Bus srs & Univ Special Students with no undergrad degree); a grade of 'C' or better in Bus Adm 301(205)(P) & 230(P); or grad st & Bus Adm 721(P).

441 Diversity in Organizations. 3 cr. U/G.
Conceptual and experiential understanding of cultural values and practices among diverse groups in organizations. Addresses institutional and personal discrimination, stereotyping and prejudice. Counts as repeat of Bus Adm 443 with similar title. Prereq: jr st, admis to Bus Adm major, & Bus Adm 330(C); or grad st.

442 Industrial Psychology. 3 cr. U/G.
Application of psychological principles to industrial problems. Prereq: Bus Adm 330(P) & Psych 101(P).

443 Special Topics in Human Resources Management: (Subtitled). 3 cr. U/G.
Selected topics in human resources management. Specific topics will appear in the Schedule of Classes whenever the course is offered. May be retaken with change in topic to max of 9 cr. Prereq: jr st & admis to Bus Adm major (excluding Pre-Business Administration srs & Univ Special Students with no undergraduate degree), & Bus Adm 330(P); or grad st.

445 Training & Development in Organizations. 3 cr. U/G.
Development and evaluation of training and career development programs in organizations. Skills-based approach to understanding needs assessments, learning principles, training development and evaluation. Counts as repeat of Bus Adm 443 with similar title. Prereq: jr st, admis to Bus Adm major, & Bus Adm 444(P); or grad st.

481 Real Estate Finance. 3 cr. U/G.
Mechanism of real estate finance, sources of funds, loan contracts, principles of mortgage risk analysis, and the role of government agencies; real estate investment analysis. Prereq: jr st; Bus Adm 380(P).

482 Valuation of Real Estate. 3 cr. U/G.
Economic theories of value applied to real estate; valuation as a guide to business decisions; real estate market which affects value; valuation methods, analysis of evidence of value; appraising residential and income properties. Prereq: jr st; Bus Adm 380(P).

483 Property Development and Management. 3 cr. U/G.
Analysis of real estate development; consideration of site selections, market analysis, financing, design, and construction in connection with subdividing residential community development and shopping centers. Prereq: jr st; Bus Adm 481(P) or grad st.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

- May be retaken with change in topic. Prereq: jr st; acceptance for Study Abroad Prog.

700 Building Business Interfacing Skills. 2 cr. G.

How organizations communicate to external stakeholders and how internal norms for communication assist businesses in meeting strategic objectives. Emphasizes fast-paced environments in modern organizations. Counts as repeat of BusMgmt 700. Prereq: grad st.

701 Business Mathematics. 2 cr. G.

Mathematical concepts essential to business. Exponents, polynomial functions, exponential and logarithmic functions, solution of linear systems, basic differential and integral calculus; emphasizes application to business problems. Counts as repeat of BusMgmt 701. Prereq: grad st.

702 Business Statistics. 2 cr. G.

Statistical concepts essential in business. Descriptive statistics, basic probability, common sampling distributions, statistical inference; application to business problems emphasized. Counts as repeat of BusMgmt 701. Prereq: grad st.

703 Financial Accounting. 3 cr. G.

Covers financial accounting model underlying financial statements, accounting standard setting, role of accounting in capital formation, interpretation and analysis of financial statements. Counts as repeat of BusMgmt 702. Prereq: grad st.

710 Applied Management Science. 3 cr. G.

Basic management science models applied to various aspects of business management; emphasis on problem formulation and modeling, computer algorithms and optimization software. Prereq: grad st; BusMgmt 709.

713 Business Forecasting Methods. 3 cr. G.

Overview and use of modern forecasting methods in support of managerial strategic planning, financial, and operational analysis of a dynamic global business environment. Prereq: grad st; BusMgmt 709(P) or Bus Adm 754(P).

714 Multivariate Techniques in Management Research. 3 cr. G.

Multivariate analysis of variance, principal component analysis, factor analysis, conjoint analysis, bootstrap resampling, cluster analysis, canonical correlation, data mining (classification trees and neural networks); computer implementation. Prereq: grad st; BusMgmt 709(P) or Bus Adm 754(P).

719 Management of Quality. 3 cr. G.

Planning, managing, measurement, and improvement of quality. Topics include customer satisfaction and marketing, quality management systems, and statistical methods for design and improvement. Prereq: grad st; BusMgmt 709(P) or Ind Eng 767(P).

721 Financial Accounting Theory. 3 cr. G.

The principles of external reporting are integrated with approaches to problem solving. Emphasis is placed upon recent developments of the accounting profession. Not open to students who have cr in Bus Adm 301(ER). Prereq: grad st; grade of B or better in Bus Adm 703(P) or 201(P).

722 Advanced Financial Accounting Theory. 3 cr. G.

Specialized topics in external financial reporting are studied. A critical appraisal is made of current and emerging accounting theory. Prereq: grad st; grade of B or better in Bus Adm 721(P) or 301(P).

724 Business Combinations and Governmental Accounting. 3 cr. G.

Accounting for mergers and acquisitions including consolidation procedures and foreign subsidiary investments. Also includes accounting principles for government and nonprofit entities. Prereq: grad st; grade of B or better in Bus Adm 721(P) or 301(P).

725 Strategic Cost Management I. 3 cr. G.

Cost data accumulation and its utilization by management. Emphasis on job order and process costing, standard costing, cost-volume-profit analysis, budgets, capital expenditures. Cannot be taken by students receiving cr for Bus Adm 404. Prereq: grad st; grade of B or better in Bus Adm 703(P) or 201(P).

726 Strategic Cost Management II. 3 cr. G.

Uses quantitative and behavioral models to aid management planning and control. Emphasizes analysis techniques to aid in the solution of accounting oriented management problems. Not open to students who have cr in Bus Adm 426(ER). Prereq: grad st; Bus Adm 725(P) or 404(P).

728 Auditing Theory and Applications. 3 cr. G.

A study of auditing standards, methodology, and professional and reporting responsibilities. Emphasis is on underlying concepts and theory. Prereq: grad st; Bus Adm 408(P) and grade or B or better in Bus Adm 721(P) or 301(P).

732 Transforming Organizations. 3 cr. G.

Combines individual and organizational-level analysis to provide insights into changing organizations. Topics include innovation, leadership, corporate cultures, and changing management from a broad view. Prereq: grad st; BusMgmt 714(P).

733 Organizational Development. 3 cr. G.

Problems of implementing change. Roles of external and internal consultants. Determining needs and measuring relevant variables. Prereq: grad st; BusMgmt 706(P) or cons instr.

734 Managing Technological Innovation. 3 cr. G.

Organizational and strategic issues involved in managing technologies and innovation processes. Emphasizes professional enployees, creativity, project teams, leadership, interdepartmental relations, technological evolution, and R&D strategies. Prereq: grad st.

735 Staffing Organizations. 3 cr. G.

Broad overview of staffing practices and related research; topics include staffing strategy, legal compliance, job analysis, external recruitment and selection, staffing systems management, and retention. Not open for cr to those w/ cr in Bus Adm 795 w/ topic: Staffing. Prereq: grad st

736 Seminar in Managing Change: (Subtitled). 3 cr. G.

Topics are limited to the areas of managing change and their business applications. Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. May be repeated w/ chg in topic to 6 cr max. Prereq: grad st

737 Managerial Decisions and Negotiations. 3 cr. G.

Provides frameworks for making effective decisions and negotiating viable solutions. Improves performance in these key managerial roles by engaging in case study, exercises, and industry projects. Prereq: grad st; BusMgmt 706(P).

738 Human Resource Management. 3 cr. G.

Strategies for attracting, retaining and developing a diverse and international workforce. Topics include employment law, diversity, staffing, training, performance management, compensation and current issues. Prereq: grad st; BusMgmt 706(P).

740 Management Information Systems Concepts and Languages. 3 cr. G.

Introduction to data organization, object-oriented design, construction and validation of application programs, development methodologies and control structures, illustrate with object programming language. Prereq: grad st.

741 Decision Support Systems and Groupware. 3 cr. G.

Individual and group decision making in business. Decision processes, modeling, and data warehousing for effective support and web-based use. Technology and processes for group and distributed decisions. Prereq: grad st.

744 Management of Information Systems. 3 cr. G.

Focus on the management, organizational, operations/ethical issues involved with information systems. Addresses possible approaches for effective enterprise-wide management of information system resources. Prereq: grad st; Bus Adm 747(P).

745 Managing Information Technology for Performance. 2 cr. G.

Strategic and operational issues surrounding complex interactions of information technology, people and organizations. Emphasis on successful implementation of technology based on

management models and practice. Prereq: grad st in mba-executive curriculum or cons instr.

746 Topics in Management Information Systems: (Subtitled). 3 cr. G.
Topics are limited to the areas in management information systems and business application. Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. May be retaken with change in topic to max of 9 cr. Prereq: grad st.

747 Systems Analysis and Design. 3 cr. G.
Requirements definition, modeling, and specification of information systems. Object-oriented conceptual and logical design data management and distribution, user interface design. Prereq: grad st.

748 Information Technology Project Management. 3 cr. G.
Develop understanding of key knowledge areas, process groupings, and constraints of project management, project life-cycle, tools/techniques including wbs, metrics, earned value analysis, network diagrams. Prereq: grad st; Bus Adm 747(P).

749 Data Management Systems. 3 cr. G.
Database modeling and design. Object oriented data modeling using uml. Logical and physical design considerations. Creating and loading databases. Data manipulation using sql. Manipulating databases from web. Prereq: grad st; Bus Adm 740 (P) & 747 (P).

751 Analysis of U.S. Business Environment. 3 cr. G.
Analysis of inflation, business cycles, interest rate dynamics and term structure, federal reserve policy, tax policy, and economic growth. Prereq: grad st; Bus Adm 701(P) & 702(P).

752 Corporate Economics. 3 cr. G.
Applied economic analysis of market structure, price discrimination, oligopoly, cartels, and collusion. The course integrates the psychology of price and behavioral economic issues in pricing. Prereq: grad st in mba-executive curric or cons instr.

753 Advanced Business Law. 3 cr. G.
Advanced legal concepts focusing on Uniform Commercial Code, bankruptcy and creditor protection, liability of bailees and common carriers, product liability, and real and personal property. Prereq: grad st; Bus Adm 391(P).

754 Statistical Analysis. 3 cr. G.
Business applications of probability theory and statistical methods to managerial problems of prediction, inference and decision making under uncertainty. Prereq: grad st; Bus Adm 701(P) & 702(P).

755 Health Care Administration and Delivery Systems. 3 cr. G.
Covers administrative structures and processes in health care institutions, including managing clinicians and inter-organizational relationships of U.S. and selected foreign health care providers. Prereq: grad st.

756 Health Care Delivery Systems. 3 cr. G.
Inter-organizational relationships of health care providers. Financing trends in medicare, medicaid, and private insurance. Managerial analysis of the economic and regulatory aspects of health care. Prereq: grad st.

757 Managed Care and Integrated Health Networks. 3 cr. G.
Examines concepts and management of capitated and vertically integrated health care organizations; utilization control, risk and quality assessment, benefit design, pricing, management of clinical professionals. Prereq: grad st; Bus Adm 755(P).

758 Engineering Economics and Management. 3 cr. G.
Study of planning, analysis, and control tools that facilitate engineers' decision-making processes. Study of relationships between functional areas of business and decision-making processes of engineering. Prereq: grad st.

759 Seminar in Health Care Management: 3 cr. G.
Topics limited to the area of health care management. Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. May be repeated w/ chg in topic to 6 cr max. Prereq: grad st

760 Marketing of Industrial and Technological Products. 3 cr. G.
Marketing of goods and services to business organizations, governments and institutions. Understanding organizational processes, problem solving skills with respect to business marketing and marketing channel relationships. Prereq: grad st.

761 Seminar in Marketing: (Subtitled). 3 cr. G.
Decision-making regarding product, price, channels of distribution, and promotion; focus on over-all marketing policies and program planning strategies. Specific topic and additional prerequisites may appear in the schedule of classes each semester. Prereq: grad st.

762 Marketing Research. 3 cr. G.
Understanding the market research process, obtaining and integrating relevant information into marketing decision-making processes. Listening to the voice of the customer, customer satisfaction measurement and technology utilization for database marketing. Prereq: grad st; BusMgmt 709(P).

764 Buyer Behavior and Marketing Communications. 3 cr. G.
A multidisciplinary approach to understanding buyer behavior processes in the market place and their implications for the development of marketing strategies, especially marketing communications. Prereq: grad st.

765 Strategic Product and Brand Management. 3 cr. G.
Customer-focused product development and management; the creation and management of brand equity. Technology-marketing interface and customer involvement in product innovation and strategy. Prereq: grad st.

766 Marketing for Nonprofit Organizations. 3 cr. G.
Explores ways in which non-business organizations such as hospitals, quasi-governmental agencies and educational institutions utilize marketing concepts and techniques in fulfilling their objectives. Prereq: grad st.

767 Services and Relationship Marketing. 3 cr. G.
Development and marketing of services within a changing and growing global marketplace. Includes service quality measurement and management, and the important role of relationship marketing. Prereq: grad st.

768 Marketing Management. 3 cr. G.
Study and application of the concepts, tools and analyses that underlie strategic marketing decisions. Prereq: grad st.

771 Investments. 3 cr. G.
Financial assets pricing and selection for stocks, bonds, convertible securities, and warrants. Concepts of diversification, asset valuation models and derivative securities. Prereq: grad st; BusMgmt 705(P) & BusMgmt 709(P).

772 Portfolio Management. 3 cr. G.
Study of dynamic process that periodically matches investors' goals, objectives, and strategies with market expectations through portfolio construction and revision. Covers asset allocation, return optimization, and management of various asset types. Prereq: grad st; Bus Adm 771(P).

773 Options And Futures. 3 cr. G.
Pricing theories and models for options and futures contracts and their application to investment hedging, arbitrage, and portfolio management. Covers equity, fixed income, commodity, and currency options and futures. Prereq: grad st; Bus Adm 771(P).

774 Global Financial Management. 3 cr. G.
Analysis of financial problems corporations face when operating in an international environment. Emphasis on management of foreign exchange risk. Prereq: grad st; Bus Mgmt 705(P); Bus Mgmt 710(C).

775 Financial Strategy. 3 cr. G.
Application of financial theory to corporate strategic planning. Working capital management, capital budgeting, capital structure, dividend policy, global finance, and mergers and acquisitions. Prereq: grad st; BusMgmt 705(P) & BusMgmt 709(P).

776 Financial Management of Health Care Organizations. 3 cr. G.
Theory and application of techniques of financial management in a non-profit organization. Covers acquisition and management of capital assets; management of working capital; sources of funds; and financial decision-making under multiple goals. Prereq: grad st; Bus Adm 709(P) & 729(P).

777 Advanced Corporate Finance. 3 cr. G.
Critical examination and evaluation of modern corporate finance theory. Market efficiency, corporate investment decisions, capital structure, financing vehicles, risk management, corporate restructuring, and governance. Prereq: grad st; Bus Adm 771(P), 775(P).

778 Financial Institutions and Markets. 3 cr. G.
Application of finance theory to financial management of firms including commercial banks, insurance companies, pension funds, mutual funds, and securities firms. Prereq: grad st; BusMgmt 705(P).

779 Fixed Income Securities. 3 cr. G.
Examination of the pricing and features of modern fixed income securities including treasuries, municipals, mortgage-backed, callable and putable bonds, convertibles, and interest rate swaps. Prereq: grad st; Bus Adm 771.

781 Enterprise Resource Planning and Control. 3 cr. G.
Production planning and inventory management for both manufacturing and service organizations. An enterprise resource planning (erp) software such as sap will be used in the course. Prereq: grad st; BusMgmt 711(P).

782 Supply Chain Technology and Simulation. 3 cr. G.
Manufacturing innovations (e.g., lean manufacturing), manufacturing information systems, simulation-based technology development and prototyping, manufacturing systems design and simulation. Prereq: grad st; Bus Adm 710(P).

783 Supply Chain Management. 3 cr. G.
Management of supply chain, supply chain design, purchasing and distribution, supply contracts, and supply chain technology. Prereq: grad st; BusMgmt 711(P).

784 Process Breakthrough Managment. 3 cr. G.
Business process breakthrough methods and tools, including 6-sigma methodology, measurement systems analysis, and advanced process control techniques. Prereq: grad st; BusMgmt 709(P) & BusMgmt 711(P).

785 Project Management and Innovative Operations. 3 cr. G.
Management of innovative business projects, including multi-tier contracting, cpm/pert, virtual manufacturing, quality targeting and pursuit, and global operations. Prereq: grad st; BusMgmt 711(P) & Bus Adm 782(C).

786 Business Logistics Management. 3 cr. G.
Logistics management concepts, issues, and models. Topics include logistics information systems, inventory management, transportation methods, warehousing, and global issues. Prereq: grad st; BusMgmt 711(P)

788 Engineering Project Management. 3 cr. G.
Emphasis on techniques for managing engineering projects, including generating project proposals, cost-benefit analysis, project team formation and managing, project planning and scheduling, and risk management. Prereq: grad st.

794 Enterprise Integration: (Subtitled). 1 cr. G.
Knowledge and skills important for effective integration and management of organizations across technical and business functions, and national and cultural boundaries. Topics vary and may include methods for quality improvement, management communications, business ethics, organizational leadership, etc. Prereq: grad st in Bus Adm or prior approval of Bus Adm graduate prog services office.

795 Seminar-in-Management: (Subtitled). 1-3 cr. G.
Intensive and critical examination of a specific management problem area or a related research question. Specific topic and additional prerequisites may appear in the schedule of classes each semester. Repeatable with change in topic. Prereq: grad st; appropriate management science core courses or cons instr.

796 Competition and Strategy. 3 cr. G.
An interdisciplinary analysis of forces that shape industry competition and a firm's competitive advantage. Focuses on strategies for success in high technology, mature, declining, and global industries. Prereq: grad st; BusMgmt 706.

797 Management Project. 2 or 4 cr. G.
Investigation of an actual management problem or another substantive question in an allied discipline presented, for example, in the form of a business report or professional paper. May be retaken with change in topic with cons appropriate Lubar School of Business prog committee. Prereq: grad st; cons instr.

798 Strategic Planning in Public and Nonprofit Sectors. 3 cr. G.
Focuses on effective designs for strategic planning processes and assessment of external environmental and internal organizational characteristics, design, and evaluation of strategies. Prereq: grad st.

799 Reading and Research. 1-12 cr. G.
Individual work suited to the needs of graduate students. May be retaken with change in topic with cons appropriate Lubar School of Business prog committee. Prereq: grad st; cons instr.

800 Multinational Business Operations. 3 cr. G.
Theories, information, and research pertaining to management of international business including selected aspects of foreign investment decision, strategy development, organization and control of multinational operations. Prereq: grad st.

806 International Marketing. 3 cr. G.
Examines international market development including determining objectives, evaluating market opportunities, entry strategies, and marketing mix in the international environment. Prereq: grad st.

807 Seminar in International Business: (Subtitled). 3 cr. G.
Topics limited to the areas of international business. Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. May be repeated w/ chg in topic to 6 cr max. Prereq: grad st.

808 International Business Negotiations. 3 cr. G.
Process and strategies for international business negotiations between multinational corporations and foreign governmental agencies and firms for the establishment of trade, joint ventures, and economic cooperation. Prereq: grad st; Bus Adm 800(P) or cons instr.

809 International Business Strategy. 3 cr. G.
Examines the strategic planning and action of international firms from the perspective of corporate headquarters. Prereq: grad st; Bus Adm 800(P) & 806(P), or cons instr.

811 Business Reengineering Through Information Technology. 3 cr. G.
Conceptual understanding of business reengineering emphasizing role of it. Develop skills in process assessment/redesign, it assessment/integration into business processes. Action planning of it-enabled reengineering implementation. Prereq: grad st; BusMgmt 707(P) or Bus Adm 744(P); or cons instr.

812 Emerging Information Technologies. 3 cr. G.
Introduction to novel information technologies; assessing viability, impact and management of emerging technologies; integration with traditional information technology. Hands-on experience in laboratory setting. Prereq: grad st; Bus Adm 740(P) or cons instr.

813 Object-Oriented and Visual Paradigms. 3 cr. G.
Object-oriented/visual concepts and use in management applications; object-oriented/visual design and development methodologies/languages; prototyping; implementation in an appropriate environment. Prereq: grad st; Bus Adm 740(P).

814 Intelligent Systems for Business. 3 cr. G.
Knowledge-based systems for business domains. Foundations and pragmatic

acquisition of business knowledge. Use of intelligent systems in data mining, intelligent agents, and knowledge management. Prereq: grad st.

819 Management Information Systems Internship. 3 cr. G.
A defined work period addressing information systems in a corporate, government, or management consulting environment. Prereq: grad st; writ cons instr.

820 Tax Research, Practice, and Procedure. 3 cr. G.
Methodology of federal tax research, including computerized research. Organization of and practice before the irs. Audits, deficiencies, assessment and collection. Preparer penalties. Ethical responsibilities. Prereq: grad st; Bus Adm 405(P).

821 Business Taxation. 3 cr. G.
Advanced business tax issues, including tax research, consolidated returns, corporate reorganizations, multistate and international taxation. Prereq: grad st; Bus Adm 406(P).

823 Corporate Income Taxation. 3 cr. G.
Tax issues associated with formation, operations, liquidation and reorganization of regular corporations. Introduction to consolidated returns. Prereq: grad st; Bus Adm 406(P)

825 Estate Planning. 3 cr. G.
Estate, gift and income tax issues associated with intra-family and charitable wealth transfers. Business succession planning. Prereq: grad st; Bus Adm 406(P)

826 Tax Planning for Individuals. 3 cr. G.
Advanced tax issues and planning opportunities for individuals. Introduction to the taxation of trusts and estates, as well as estate and gift tax issues. Prereq: grad st; Bus Adm 406(P)

827 Taxes and Business Strategy. 3 cr. G.
Comprehensive examination of tax planning issues associated with choice of entity, start-ups, purchase or sale of business, compensation, and financing options. Business succession planning. Prereq: grad st; Bus Adm 406(P)

828 Taxation of Partnerships, S Corporations, and LLCs. 3 cr. G.
Tax issues associated with formation, operation, and dissolution of partnerships. Subchapter s corporations, and limited liability companies. Sale of ownership interests. Prereq: grad st; Bus Adm 406(P)

829 Executive Compensation and Benefits. 3 cr. G.
Tax issues associated with different methods of compensating executives and other employees. Prereq: grad st; Bus Adm 406(P)

831 Multistate Income Taxation. 3 cr. G.
State taxation of income derived by corporations, flow through entities, and individuals from interstate business and investment activity. Prereq: grad st.

832 Property Taxation. 3 cr. G.
Basic and advanced topics in state and local property taxes, with an emphasis on issues commonly encountered by multistate businesses. Prereq: grad st.

834 International Taxation. 3 cr. G.
U.S. taxation of income derived by corporations, flow-through entities, and individuals from both outbound and inbound business and investment activity. Prereq: grad st; Bus Adm 406(P)

837 Sales and Use Taxation. 3 cr. G.
Basic and advanced topics in state and local sales and use taxes, with an emphasis on the treatment of transactions commonly encountered by multistate businesses. Prereq: grad st.

838 Managing State and Local Audits. 3 cr. G.
Practical insights into managing the problems encountered in state and local income, sales and use, and property tax audits. Prereq: grad st.

839 Topics in Taxation: (Subtitled). 3 cr. G.
The topics are limited to the area of taxation. May be repeated with change in topic to max of 6 cr. Prereq: grad st; Bus Adm 406(P)

840 Current Issues in Financial Reporting. 3 cr. G.
Current topics of concern to accounting professionals such as derivatives, stock options, fair value accounting, and principles-based accounting. Prereq: grad st; Bus Adm 722(P) or 402(P)

841 Financial Statement Analysis. 3 cr. G.
Implications of alternative financial accounting methods for analysis and decision-making. New financial transactions. Understanding the motivations for, and results of, financial engineering. Prereq: grad st; Bus Adm 722 (C) or 402(P)

842 Governmental and Nonprofit Accounting. 3 cr. G.
A study of the unique accounting, financial reporting, budget and audit issues of governmental and nonprofit organizations. Not open for cr for students in MS-PA, MS-Acctng, or MS-Tax concentrations. Prereq: grad st

843 International Accounting Theory and Practice. 3 cr. G.
Environmental influences on accounting and taxation, consolidation of foreign subsidiaries, analysis of foreign financial statements, foreign currency transactions, transfer pricing, foreign tax treaties and planning. Prereq: grad st; Bus Adm 722(P) or 402(P); & 406(P)

844 Auditing: Professional Standards and Practices. 3 cr. G.
An in-depth study of the various professional standards that shape the audit process including those related to audit procedures, reporting responsibilities, and statistical sampling. Prereq: grad st; Bus Adm 409(P).

847 Topics in Accounting Theory: 3 cr. G.
Analysis of contemporary accounting issues with emphasis on applications of accounting theory and the development of research and analytical skills. Extensive use of case studies. Specific topic and additional prerequisites may appear in the Timetable each semester. Repeatable with change in topic to 6 cr max. Prereq: grad st; Bus Adm 402(P), 403(P), & 404(P).

848 Professional Accounting Practice. 3 cr. G.
In-depth analysis of audit, taxation, and advisory services to clients including legal and ethical issues in the practice of a CPA. Includes professional exam preparation. Prereq: grad st; Bus Adm 724(P).

849 Accounting Internship. 3 cr. G.
A defined work period in an accounting firm, corporation, or governmental agency. Prereq: grad st; writ cons instr.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

890 Introduction to Electronic Business. 3 cr. G.
Overview of the evolution and trends in conducting ebusiness on the internet/web. Key technological, marketing, supply-chain-oriented, legal, and tax challenges and potential solutions will be discussed. Prereq: grad st.

891 Development of Electronic Business Applications. 3 cr. G.
Introduction to tools and technologies for developing electronic business applications. Client/server, data access protocols, scripting, business transactions, security, shopping carts, merchandising, and credit card payments. Prereq: grad st.

892 Analysis and Design of Electronic Business Systems. 3 cr. G.
Modeling electronic business systems. Identifying requirements, conceptual and logical design, user interface and data management. Integration with internal and external systems. Prereq: grad st.

893 Infrastructure for Electronic Business. 3 cr. G.
Design and development of corporate technology infrastructure for electronic business. Open standards. Security, reliability, and performance considerations. Data management issues. Prereq: grad st.

894 Internet Marketing. 3 cr. G.
Introduction to the principles of internet marketing, types of products that can be marketed online, communication strategies, selling strategies, and pricing strategies. Prereq: grad st.

895 Strategic Marketing Issues in eBusiness. 3 cr. G.
Online branding, internet pricing and promotion strategy, managing channel conflict, online competitive strategy,

synergies between traditional and online operations, and other topical issues. Prereq: grad st.

897 eBusiness Practicum. 4 cr. G.
Team project to build a prototype ebusiness system to address a specific client need. This involves need assessment, market research, requirement specification, system design and building a working prototype. Prereq: grad st; any three eBusiness courses & cons instr.

899 Management Research Project/Thesis. 1-6 cr. G.
Original analysis of a management problem. Involves the application of the elements of scientific inquiry in the context of a contemporary problem. Prereq: grad st; cons instr.

900 Doctoral Orientation to Teaching and Research. 1 cr. G.
Introduces doctoral students to academic careers and research management. Focuses on research approaches, research management in private and public organizations, and teaching responsibilities in higher education. Prereq: grad st.

912 Statistical Methods for Management Research. 2 cr. G.
Overview of methods for management research including modelling of uncertainty, hypothesis testing, survey designs, and distribution-free methods for data analysis. Prereq: grad st; Bus Adm 709(P); 799(P) or cons instr.

913 Advanced Business Forecasting Methods. 2 cr. G.
Business forecasting using advanced quantitative techniques such as multiple time series methods, random coefficient models, and kalman filter method. Prereq: grad st; Bus Adm 713(P) & 912(P).

914 Advanced Multivariate Techniques in Management Research. 3 cr. G.
Analysis of management problems using multivariate methods including logistic regression, structural equations, scale reliability measures, simultaneous inference, observational study corrections, and multidimensional scaling. Prereq: grad st; Bus Adm 714; Bus Adm 754 or 912.

918 Doctoral Seminar in Behavioral Research Methods in Management. 3 cr. G.
Selected advanced topics in behavioral research methods. Prereq: grad st; Bus Adm 709 or 754.

984 Finance Doctoral Seminar I: (Subtitled). 3 cr. G.
Selected topics focusing on theoretical foundations of corporate finance and investments, and on testing such theories. Topics & prerequisites announced each time course is offered. Retakable with change in topic to max of 9 cr. Prereq: grad st.

990 Doctoral Seminar in Strategic Management: (Subtitled). 3 cr. G.
Selected advanced topics in strategic management. Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. May be repeated w/ chg in topic to a 9 cr max. Prereq: grad st.

991 MIS Doctoral Seminar II: (Subtitled). 3 cr. G.
Selected advanced topics in management information systems. Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. May be repeated w/ chg in topic to a 9 cr max. Prereq: grad st.

992 Doctoral Seminar in Marketing: (Subtitled). 3 cr. G.
Selected advanced topics in marketing. Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakeable with change in topic to max of 9 cr. Prereq: grad st.

993 Doctoral Seminar in Production and Operations Management: (Subtitled). 3 cr. G.
Selected advanced topics in production and operations management. Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakeable with change in topic to max of 9 cr. Prereq: grad st & cons instr.

994 Finance Doctoral Seminar II: (Subtitled). 3 cr. G.
Selected advanced topics in finance. Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakeable with change in topic to max of 9 cr. Prereq: grad st.

995 Doctoral Seminar in Decision Sciences: (Subtitled). 3 cr. G.
Selected advanced topics in multi-disciplinary and methodological issues in management science. Specific topics and any additional prereqs will be announced in the schedule of classes each time the course is offered. Retakeable with change in topic to max of 9 cr. Prereq: grad st; Bus Adm 709 or 754.

996 Doctoral Seminar in Organizations: (Subtitled). 3 cr. G.
Selected advanced topics in organizations. Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakeable w/ chg in topic to 9 cr max. Prereq: grad st.

997 Doctoral Dissertation. 1-12 cr. G.
- Prereq: dissertator st; cons instr.

998 MIS Doctoral Seminar I: (Subtitled). 3 cr. G.
Selected advanced topics in management information systems. Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakeable w/ chg in topic to 9 cr max. Prereq: grad st.

999 Independent Work. 1-3 cr. G.
- Prereq: grad st; cons instr.

Courses - Business Management

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

704 Accounting Analysis and Control. 3 cr. G.
Prepares managers to critically analyze, interpret and use financial statements, cost reports, and other financial information provided by accountants and accounting systems. Prereq: grad st; Bus Adm 703(P).

705 Corporate Finance. 3 cr. G.
Analysis of corporate financial decision-making including security valuation, cash flow estimation, capital budgeting, financial planning, capital structure, dividend policy, and international financial management. Prereq: grad st; Bus Adm 702(P) & 703(P).

706 Managing in a Dynamic Environment. 3 cr. G.
Provides frameworks and techniques for managing people and improving organizations. Topics include motivation, group dynamics, leadership, performance management, structure, innovation, power, change, and corporate cultures. Prereq: grad st; Bus Adm 700(P).

707 Information Technology for Competitive Advantage. 3 cr. G.
Role of information technology in business in the information age; enterprise-wide approaches and innovative solutions; it planning and impact for operational and strategic decisions. Prereq: grad st; Bus Adm 700(P) & 701(P).

708 Marketing Strategy: Concepts and Practice. 3 cr. G.
Builds key concepts in marketing strategy, develops knowledge of current issues and provides hands-on experience in developing and executing marketing strategies for today's managers. Prereq: grad st.

709 Data Analysis for Management Applications. 3 cr. G.
Developing statistical thinking through basic concepts for data analysis. Formulation of regression and related models, diagnostics, interpretations and reporting of statistical results for management applications. Prereq: grad st; Bus Adm 701(P) & 702(P).

710 Economic Analysis for Managers. 3 cr. G.
Production and pricing in different market environments, strategic decision-making, optimal incentives and procurement, regulatory issues, environmental issues, and economics of information. Prereq: grad st; BusMgmt 709(C).

711 Competitive Operations Strategy. 3 cr. G.
Strategic views of operations function will be emphasized through a series of case studies on topics such as lean manufacturing, TQM, JIT, and world class

manufacturing. Prereq: grad st; BusMgmt 709(P).

712 Strategic Management. 3 cr. G.
Tools for strategic thinking and developing competitive strategies. Analysis of forces that shape industry competition and competitive advantage. Management issues and internal functional strategies that lead to effective strategy implementation. Prereq: grad st; BusMgmt 704(P); 705(P); 706(P); 707(P); 708(P); 709(P); 710(P); 711(P).

713 Entrepreneurship: Venture Creation and Management. 3 cr. G.
Study of creation, growth or acquisition of a business through entrepreneurial efforts. Process of identifying and quantifying opportunities, then conceptualizing, planning and starting a new enterprise. Prereq: grad st; Bus Adm 703(P) & BusMgmt 708(P).

714 Managing People and the Role of General Managers. 3 cr. G.
Provides framework for understanding organizational behavior and roles of general managers, as distinct from functional specialists. Develops managerial skills through cases, exercises, and industry projects. Prereq: grad st.

715 Leadership, Team Building, and Effective Management. 3 cr. G.
Provides a working knowledge of team building, managing change, and effective business communication methods, and an understanding of leadership tools. Prereq: grad st.

716 International Business Management and Residence. 3 cr. G.
Theories and research pertaining to international business, including foreign investment, marketing, personnel, strategy development, and control of multinational operations are presented through coursework and residency. Prereq: grad st.

717 Operations and Supply Chain Management. 3 cr. G.
Focuses on key issues of management of operations in general, and managing supply chain in particular. Exposure to concepts of enterprise and supply chain integration through enterprise resource planning (ERP). Prereq: grad st.

718 Concepts and Practice of Nonprofit Management. 3 cr. G.
Characteristics and formation of nonprofit organizations; building effective boards of directors; board roles and responsibilities; conflicts of interest; evaluating nonprofit performance; grant writing, foundations, and fund-raising. Prereq: grad st.

719 International Human Resource Management. 3 cr. G.
Examines international human resource management functions and processes. Theoretical and applied issues aimed at increasing understanding of how international issues affect HRM. Prereq: grad st.

720 Strategic Management in Health Care Organizations. 3 cr. G.
Application of strategic management tools and techniques to health care organizations. Analyzing external, competitive, and internal environment; developing objectives; understanding current strategy; formulating and implementing future directions. Prereq: grad st; Bus Adm 757(P); BusMgmt 708(P) or Bus Adm 766(P); BusMgmt 704(P), 705(P), 706(P), 707(P), & 711(P).

721 Fundraising and Development for Nonprofit Organizations. 3 cr. G.
Philosophical thoughts on development; basics of fundraising; strategic planning and implementation. Prereq: grad st.

723 Managing and Negotiating Across Cultures. 3 cr. G.
Role of culture in international management, including organization, strategy, human resource management, leadership, teams, business ethics, and negotiations. Prereq: grad st.

724 Accounting for Nonprofit Organizations. 3 cr. G.
Financial and managerial accounting topics for the nonprofit sector; relationship of these topics to finance, the legal environment of nonprofits, and mission of the organizations. Prereq: Grad st.

725 Governance and Executive Leadership of Nonprofit Organizations. 3 cr. G.
Roles and responsibilities of governing boards and executive leaders. Critical review of alternative governance and executive leadership models. Prereq: grad st

726 Study Abroad: Business Topics: (Subtitled). 1-3 cr. G.
Immersion (including instruction at an international university) in the economic, cultural, and business practices of selected countries. Prereq: grad st & acceptance for Study Abroad Prog.

727 Health Care Accounting, Law and Ethics. 3 cr. G.
Critical examination of healthcare specific issues and differences from other industries: financial and accounting practice; legal requirements and constraints; ethical issues facing healthcare managers. Prereq: grad st; BusMgmt 704(P) and 705(P).

728 Training and Development in Organizations. 3 cr. G.
Development and evaluation of training and career development programs in organizations. Skills-based approach to understanding needs assessments, learning principles, training development and evaluation. Counts as repeat of Bus Adm 443 with similar subtitle. Prereq: grad st.

730 Strategic Management and Leadership for Nonprofit Organizations. 3 cr. G.
Concepts and methods of strategic thinking and applications of strategy in nonprofit organizational settings. Nonprofit governance and executive leadership roles in strategy formation and implementation. Prereq: grad st; BusMgmt 718(P) or Pol Sci 789(P) or Pol Sci/Sociol/Urb Std 704(P); BusMgmt 721(P), 724(P), & 725(P); Bus Adm 766(P) or Pol Sci 705(P) or Pol Sci 791(P); Pol Sci 792(P) & 793(P)

731 Research Tools for Practitioners in Human Resources and Labor Relations. 3 cr. G.
Planning and carrying out simple surveys; evaluating policies, programs, and procedures in organizations; interpreting, evaluating and using research conducted by others. Ind Rel 731 and BusMgmt 731 are jointly offered; they count as repeats of one another. Prereq: grad st; Econ 210(P) or Bus Adm 210(P) or cons instr.

CHEMISTRY

- Phone: (414) 229-5565
- Fax: (414) 229-5530
- E-mail: chemdept@uwm.edu

School/College: College of Letters and Science

Degrees Conferred:

- MS in Chemistry
- PhD in Chemistry

Overview

The Department of Chemistry and Biochemistry offers a graduate program of studies with a choice of areas of specialization in analytical, organic, inorganic and physical chemistry or in biochemistry. The student is expected to develop breadth of study beyond the boundaries of traditional areas and disciplines. The student is afforded the opportunity of interdisciplinary study in the Surface Studies Laboratory and in the Center for Great Lakes Studies.

Graduate Faculty

Distinguished Professors

Cook, James M., Ph.D., University of Michigan
Petering, David H., Ph.D., University of Michigan
Tysoe, Wilfred T., Ph.D., University of Cambridge, England

Professors

Bennett, Dennis, Ph.D., University of Utah
Dietz, Mark, Ph.D., University of Arizona
Feinberg, Benjamin, Ph.D., University of Kansas
Holme, Thomas, Ph.D., Rice University

Associate Professors

Aldstadt, Joseph H., Ph.D., Ohio University
England, Walter, Ph.D., Iowa State University
Geissinger, Peter, Ph.D., University of Bayreuth, Germany
Hossain, M. Mahmun, Ph.D., University of South Carolina
Indig, Guilherme, Ph.D., University of Sao Paulo, Brazil
Moran, Graham, Ph.D. University of Michigan
Pachecho, Andrew, Ph.D., University of British Columbia
Reddy, Michael K., Ph.D., State University of New York at Stony Brook
Schwabacher, Alan, Ph.D., Columbia University
Surerus, Kristene K., Ph.D.,University of Minnesota, Chair

Assistant Professors

Chen, Jian, Ph.D., Fudan University, PR China
Duncan, Dean, Ph.D., Emory University
Woehl, Jörg, Ph.D., University of California - Riverside

Master of Science in Chemistry

Admission

An applicant must meet Graduate School requirements plus this departmental requirement to be considered for admission to the program

1. Undergraduate preparation in chemistry and related areas equivalent to a chemistry major which includes at least one year each of physical and organic chemistry with laboratories, and one course each in analytical and inorganic chemistry with physical chemistry prerequisite.
2. Submission of scores from the General Test of the Graduate Record Examination (GRE). The Chemistry Subject Test is strongly recommended.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses. The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree. See Special Non-Thesis Option below for additional requirements for admission to that option.

Standard Thesis Option

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The entering student is assigned a temporary advisor; a permanent advisor must be selected by the end of the first semester of study. The major professor serves as the student's research mentor.

Credits and Courses

Minimum degree requirement is 24 graduate credits. Normally these include at least five 600-899 level courses, chosen by the student in consultation with the advisor. A minimum grade point average of 3.00 must be earned in formal coursework, not including research courses (990-996) or seminars (912, 931-935). The remaining credits are taken in research and seminars. The student must take Chemistry 900 (Chemistry Colloquium) and take or audit Chemistry 912 (Graduate Seminar) each semester in residence. This requirement may be modified for part-time students who may be employed during normal hours of the seminar and colloquium. Graduate School regulations require that a majority of all courses taken be at the 700-999 level. Prior to initial registration, the student takes advisory examinations to assess that individual's preparation in analytical, organic, inorganic, and physical chemistry; in consultation with the major professor, the student plans a program based on the results of these examinations. The student must also participate in at least one term of part-time teaching as a teaching assistant.

Thesis

The student writes a thesis, essentially a formal report of that student's research. Since the MS is largely a research degree, the quality of research reported in the thesis is an important measure of the student's success in the program.

Comprehensive Examination

The student must pass a final oral examination in defense of the thesis. At the discretion of the examining committee, this examination may include topics in addition to the thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Special Non-Thesis Option For Students With Professional Experience In Chemistry

Admission

In addition to the general requirements noted above for the master's degree program, applicants must have a minimum of five years of professional chemistry experience beyond the BA or BS degree, including a sizable amount of research or development laboratory work. Since the Department of Chemistry and Biochemistry believes that the problem-solving experience of research is an indispensable part of graduate study, applicants will be interviewed by a faculty committee to assess the prior research experience as appropriate background for the program.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. For this option, the major professor is chosen (by the Graduate Subcommittee) before admission to the program, and serves as a member of the committee which assesses the prior research experience of the student. The major professor should be from the area of chemistry in which the student intends to concentrate the major portion of course efforts.

Credits and Courses

Minimum degree requirement is 24 graduate credits, including no more than two credits of seminar. The remaining credits should be in formal courses. Registration for Graduate Seminar and Chemistry Colloquium, advisory examinations, course program, and core courses shall follow requirements for full- or part-time graduate students, as described for the Standard Thesis Option.

Papers and Comprehensive Examinations

The student prepares two survey papers exploring subjects in more depth than the coverage in coursework. Of these, one is in a major area and one is in a minor area. These must be approved by the student's examining committee, which consists of three faculty members representing the areas of the papers. One paper must be approved at least six months before the comprehensive examination. An oral comprehensive examination covers both the areas of the papers and other areas at the discretion of the committee.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Chemistry

Admission

An applicant must meet Graduate School requirements plus departmental requirements as given for admission to the master's program. A master's degree is not a prerequisite for admission to the PhD program in chemistry.

Reapplication

A student who receives the master's degree must formally reapply for admission to the Graduate School before continuing studies toward the PhD. Major

Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The entering student is assigned a temporary advisor; a permanent advisor must be selected by the end of the first semester of study. The major professor serves as the student's research mentor.

Course of Study

Minimum degree requirement is 54 graduate credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM. The student plans an individual program of studies in consultation with the major professor. Coursework must include one of the following: a minor of 9 to 12 credits in a single department; a minor of 9 to 12 credits in two or more departments; a coherent program of at least 9 credits concentrated in an area of chemistry outside the student's principal area of emphasis. A Program of Studies, including coursework and proposed research, must be approved by the Department. A minimum grade point average of 3.00 must be earned in coursework in Chemistry, not including research (900-996) or seminars (912-935). Graduate School regulations require that a majority of all courses taken be at the 700-999 level. The Department has no formal language requirement but the student is responsible for familiarity with published literature in the area of that student's research. The student must also participate in at least one semester of part-time teaching as a teaching assistant. The first stage of the student's program includes general preparation as in the master's program, as well as specialized courses in principal areas of interest and the initiation of research. Admission to the second stage of the PhD program is based upon satisfactory performance in courses, research, and in departmental examinations. Upon entrance, the student takes proficiency examinations in analytical, inorganic, organic, and physical chemistry. Departmental approval to continue in the doctoral program is attained by passing an advanced qualifying examination in the major area. This examination must be completed by the end of the fourth semester of study. In the second stage of the program, the student concentrates on the development and execution of original research. Additional coursework may also be required to complete the program of studies.

Residence

The student must meet minimum Graduate School residence requirements.

Doctoral Preliminary Examination

The student must take a doctoral preliminary examination. This serves to qualify the student for formal admission by the Graduate School to candidacy for the degree.

Dissertation

Candidates must each present a dissertation reporting the results of independent, original research carried out under the direction of their major professor. At least three months before the Dissertation Defense, at a time when most of the experimental work has been completed, the student meets with the Examining Committee for a preliminary review of the research to be described in the dissertation.

Dissertation Defense

The candidate must, as the final step toward the degree, defend the dissertation in an oral examination. The candidate also presents a public dissertation seminar, describing research in completed form for the Department and others who may be interested. A student who does not pass this examination within five years of admission to candidacy may be required to take another preliminary examination and be readmitted to candidacy.

Time Limit

All degree requirements must be completed within 10 years from the date of initial enrollment in the doctoral program. For additional information view the Graduate School PhD requirements.

Doctor of Philosophy with an Interdisciplinary Specialty in Biogeochemistry

Under the auspices of the doctoral programs in Chemistry, Biological Sciences, and Geosciences and the research program of the Center for Great Lakes Studies, the Department of Chemistry and Biochemistry offers doctoral training with an interdisciplinary specialization in Biogeochemistry. This specialization provides a multi-disciplinary program within the broad field of environmental and aquatic science.

Admission

Prospective students wishing to specialize in Biogeochemistry must initially be admitted to the Department of Chemistry and Biochemistry doctoral program. Admission to the Interdisciplinary Specialization is determined by the Interdisciplinary Biogeochemistry Specialization Committee consisting of representatives from the participating departments and the Center for Great Lakes Studies. In addition to meeting departmental admission requirements, students are expected to have an undergraduate degree in chemistry or a closely related field and to have completed at the college level, at least two semesters of calculus, one semester of statistics, two years of chemistry and one year of physics. A master's degree is not a prerequisite for admission to the Ph.D. program.

Major Advisor and Research Committee

Entering students are assigned a temporary major professor to advise and supervise their studies. No later than the end of the third semester, students in this specialization are required to choose a permanent major advisor to direct their doctoral research and to form a graduate thesis research committee consisting of graduate faculty from the Departments of

Biological Sciences, Chemistry, Geosciences and the Center for Great Lakes Studies.

Course of Study

All doctoral students are required to earn a minimum of 54 credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM. The curriculum of the Interdisciplinary Specialization includes a required Biogeochemistry Core course taken in the first year of graduate study, an annual seminar course requirement, and individualized course requirements selected by the student's graduate thesis research committee from a wide variety of course offerings in the sciences and related fields, based upon the student's background and doctoral research topic. At the end of the first year, students must pass a written qualifying examination based upon core course materials and their departmental major in order to continue in the Biogeochemistry Specialization. Students are expected to pursue a program of highly original, interdisciplinary research in the broad field of environmental science, which synthesizes the linkages among the physical, chemical and biological components of the natural world. In addition to course work and research, students in the Interdisciplinary Specialization are required to obtain at least one semester of teaching experience as a teaching assistant in one of the natural science departments, and participate in local community outreach through presentations, instruction, or interactions with local secondary schools, or other community involvement related to environmental issues. All students are required to obtain field experience as an integral part of their training program, e.g. through field research activities here or abroad, participation in sea-going research cruises, etc.

Doctoral Preliminary Examination

In order to advance to candidacy for the Ph.D. degree, students must pass a written and oral doctoral preliminary examination, no later than at the end of their second year, demonstrating a comprehensive knowledge in the field of biogeochemistry and their own chosen area of specialization. Upon completion of their research, students must prepare and defend a dissertation, reporting the results of their research in a public forum.

Further Information

Admission, general program requirements, and additional information on degree and research opportunities can be obtained from the departmental office or from the UWM Center for Great Lakes Studies.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

501 Introduction to Biochemistry. 3 cr. U/G.
The chemistry of biological systems. Carries grad cr for students in depts other than chem. Prereq: jr st; grade of C or better in Chem 221(P) or 223(P) & in Chem 341(P) or 345(P).

502 Development of Modern Chemistry. 2 cr. U/G.
Traces the development of chemistry from ancient to modern times. Prereq: jr st; a grade of C or better in Chem 221(P) or 223(P), & Chem 341(P) or 343(P).

511 Inorganic Chemistry. 3 cr. U/G.
Introduction to theoretical principles and descriptive chemistry of the elements. Does not count toward graduate degree in Chemistry. Prereq: jr st & grade of C or better in Chem 562(P); or grad st.

524 Intermediate Analytical Chemistry. 3 cr. U/G.
Chemical equilibria, separations, and theory and practice of instrumental measurements. Does not count toward a graduate degree in chemistry. Prereq: jr st; grade of C or better in Chem 223(P).

524 (effective 01/26/2009) Intermediate Analytical Chemistry. 3 cr. U/G.
Chemical equilibria, separations, and theory and practice of instrumental measurements. Does not count toward a graduate degree in chemistry. Prereq: jr st; grade of C or better in Chem 221(P) or 223(P).

560 Biophysical Chemistry. 3 cr. U/G.
General course designed for majors in fields other than chemistry. Does not count toward a graduate degree in chemistry. Prereq: jr st; grade of C or better in Chem 104(P); Math 211(P) or equiv.

561 Physical Chemistry I. 3 cr. U/G.
Primary focus on chemical thermodynamics. Does not count toward a graduate degree in chemistry. Prereq: jr st; grades of C or better in Chem 104(P), in Physics 210(P) & 215(P) or in Physics 220(P), & in Math 233(P); ElecEng 234(R) or Math 234(R).

562 Physical Chemistry II. 3 cr. U/G.
Continuation of Chem 561; course content is largely kinetics, statistical mechanics, and quantum chemistry. Does not count toward a graduate degree in chemistry. Prereq: jr st; grade of C or better in Chem 561(P).

563 Physical Chemistry Laboratory. 1-2 cr. U/G.
- Carries grad cr for students other than chem students. Prereq: jr st & grade of C or better in Chem 221(P) or 223(P) & Chem 561(P).

599 Special Projects in Chemistry. 3-5 cr. U/G.
Directed study or research on subjects selected by the instructor. For further information consult dept chair. Retakable to 7 cr max. Does not count toward a graduate degree in chemistry. Prereq: jr st; cons instr.

601 Biochemistry: Protein Structure and Function. 3 cr. U/G.
Cellular synthesis of proteins, protein structure/function, enzyme mechanisms. Prereq: jr st; grades of C or better in Chem 345(P), 501(P), & either 560(C) or 562(C).

602 Biochemistry: Cellular Processes. 3 cr. U/G.
Biosynthesis and metabolism of nucleic acids, structure and replication of DNA, control of gene expression, signal transduction. Prereq: jr st; grade of C or better in Chem 501(P) or cons instr.

603 Introduction to Biochemistry Laboratory. 2 cr. U/G.
Experiments in biological preparations, colorimetry, chromatography, and radioisotope techniques. Prereq: jr st; grades of C or better in Chem 221(P) or 223(P) & in Chem 501(P).

604 Biochemistry: Metabolism. 3 cr. U/G.
Glycolysis, photosynthesis, biosynthesis, metabolism. Prereq: jr st; grade of C or better in Chem 501(P) or cons instr.

611 Physical Inorganic Chemistry. 3 cr. U/G.
Physical and theoretical aspects of inorganic chemistry (spectroscopy, crystallography, kinetic and theoretical methods) are discussed. Prereq: Chem 511(P) or cons instr.

612 Transition Metal and Organometallic Chemistry. 3 cr. U/G.
Advanced survey of elements, emphasizing transition elements and organometallic species. Main group organometallics and actinides and lanthanides briefly discussed. Prereq: Chem 511(P) or cons instr.

613 Main Group Chemistry. 3 cr. U/G.
Advanced survey of metallic and non-metallic main group elements. Prereq: jr st & grade of C or better in Chem 511(P); or grad st.

614 Bio-Inorganic Chemistry. 3 cr. U/G.
Inorganic chemistry for biological systems; metaloproteins; coordination chemistry in enzymes. Prereq: jr st; grade of C or better in Chem 511(P).

630 Computational Chemistry. 3 cr. U/G.
Computer modeling techniques for molecular systems. Prereq: jr st; grade of C or better in Chem 562(P) or cons instr.

640 Advanced Survey of Organic Chemistry. 3 cr. U/G.
- Prereq: jr st; a grade of C or better in Chem 345(P).

647 Physical Methods of Organic Chemistry. 3 cr. U/G.

Application of modern instrumental methods to the separation, analysis, and identification of organic compounds. Prereq: jr st, a grade of C or better in Chem 345(P), 346(P), 524(P).

661 Intermediate Chemical Thermodynamics. 3 cr. U/G.

Laws of thermodynamics equilibria between phases. Introductory statistical thermodynamics. Thermodynamic properties of gases, solids, and solutions. Prereq: sr st, a grade of C or better in Chem 562(P).

662 Chemical Kinetics and Dynamics. 3 cr. U/G.

Present understanding of reaction kinetics and dynamics. Topics range from experimental methods for kinetics measurements to microscopic theories of reaction rates. Prereq: sr st; grade of C or better in Chem 562(P).

701 Topics in Biochemistry: (Subtitled). 2-4 cr. G.

Selected topics in biochemistry. Two topics, each for 2 cr, will last 1/2 of the semester. Students may enroll in either (2 cr) or both (4 cr). The 3 cr option offers a more complete coverage of a single topic for a full semester. Retakable w/chg in topic to 9 cr max. Prereq: grad st; grade of C or better in Chem 501(P) or 601(P).

704 Biogeochemistry: 1-4 cr. G.

The role of aquatic, atmospheric, and terrestrial environments in mediating and controlling the cycles of biologically important elements on time scales of milliseconds to millenia. Jointly-offered with Bio Sci 704 & Geo Sci 704. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

710 Advanced Survey of Inorganic Chemistry. 3 cr. G.

Graduate-level treatment of theoretical principles and descriptive chemistry of the elements. Prereq: grad st.

711 Topics in Inorganic Chemistry: (Subtitled). 3 cr. G.

Selected topics of current research interest in inorganic chemistry are discussed in detail. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

724 Electrochemistry. 3 cr. G.

Surey of modern electrochemical theory and applications to measurement of solution concentrations, rate constants, thermodynamic quantities, transport properties, and adsorption phenomena. Prereq: grad st; grade of C or better in Chem 524(P) or 621(P).

726 Topics in Analytical Chemistry: (Subtitled). 3 cr. G.

Selected topics which reflect current advances in analytical chemistry. May be retaken with change in topic to max of 9 cr. Prereq: grad st.

740 Advanced Organic Chemistry-Methods in Synthetic Chemistry. 3 cr. G.

Discussion of name reactions and other synthetic methods of preparative significance used in organic syntheses. Introduction and modification of functional groups. Recent examples of application from modern organic chemistry. Prereq: grad st; a grade of C or better in Chem 345(P).

741 Topics in Organic Chemistry: (Subtitled). 2-3 cr. G.

Current topics in organic chemistry, e.g., organometallic compounds, bioorganic chemistry, non-covalent interactions, reaction mechanisms, alkaloid total synthesis or photochemistry. Offered w/1 topic (3cr), w/2 (2cr ea); if two, take one or both. Retakable w/chg in topic to 9 cr max. Prereq: grad st; grade of C or better in Chem 345(P).

748 Physical Organic Chemistry. 3 cr. G.

Application of kinetics and other physical principles to the determination of reaction mechanisms. Prereq: grad st; a grade of C or better in Chem 562(P) & 640(P).

762 Topics in Physical Chemistry: (Subtitled). 3 cr. G.

In-depth discussion of selected topics of current interest in modern physical chemistry. Retakeable with change in topic to 9 cr max. Prereq: grad st.

765 Statistical Thermodynamics. 3 cr. G.

Fundamental principles of statistical mechanics, with applications to topics of physiochemical interest. Prereq: grad st; grade of C or better in Chem 661(P).

767 Basic Quantum Chemistry. 3 cr. G.

Basic postulates of quantum mechanics and consequences. Exact solutions for simple systems. Approximation methods for complex systems. Group theory and applications in organic, inorganic, and physical chemistry. Prereq: grad st; a grade of C or better in Chem 562(P), 564(P), & Math 234(P).

769 Surface Chemistry II. 3 cr. G.

Discussion of kinetic methods of studying reaction mechanisms with particular emphasis on catalytic reactions. Prereq: grad st; grade of C or better in Chem 768(P).

780 Modern Industrial Organic Chemistry. 3 cr. G.

Organic chemical processes-comprehensive emphasis on chemistry, polymers (preparation, properties, application), energy aspects, raw material supplies, impact on nation's and world's economics. Recommended for minor in polymer chem. Prereq: grad st.

781 Pulsed NMR Spectroscopy Theory and Practice. 3 cr. G.

Discussion and hands on practice of modern FT NMR approaches applied to analysis of chemical structure and dynamics in organic, inorganic, and biochemical molecules. Prereq: grad st; cons instr.

798 Scientific Glassblowing. 1 cr. G.

Techniques in design and maintenance of scientific glassware including low pressure systems together with consideration of the chemical structure and properties of common glasses. Prereq: grad st.

804 Current Topics in Biogeochemistry: 1 or 2 cr. G.

Impact of biological, geological, and chemical principles on selected interdisciplinary topics; scientific and mass media publications and results of new studies are critiqued. Jointly-offered with Bio Sci 804 & Geo Sci 804. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

805 Field and Lab Techniques in Biogeochemistry: 1 or 2 cr. G.

Field and sampling methodology and analytical techniques employed in the study of biogeochemistry. May include underwater technology, isotopes/tracers, statistics, and remote sensing. Jointly-offered with Bio Sci 805 & Geo Sci 805. 4 lab/field hrs per cr. Retakable w/chg in topic to 6 cr max. Prereq: grad st; cons instr.

900 Chemistry Colloquium. 0 cr. G.

Weekly lectures on current research by members of the department and visiting scientists. Fee assessed for 1 cr. Required of all Chem grad students. Prereq: grad st.

912 Graduate Seminar. 1 cr. G.

Research problems in chemistry. Weekly papers and reports. Required of all candidates for advanced degree. Prereq: grad st.

931 Advanced Seminar in Analytical Chemistry. 1 cr. G.

Weekly discussions and reports on recent developments and current progress in analytical chemistry. Topics will differ each semester, reflecting current work of particular interest. Retakable to 9 cr max. No more than 9 cr may be accumulated in courses numbered 931-935. Prereq: grad st & enroll in Chem 993(C).

932 Advanced Seminar in Biochemistry. 1 cr. G.

Weekly discussions and reports on recent developments and current progress in biochemistry. Topics will differ each semester, reflecting current work of particular interest. Retakable to 9 cr max. No more than 9 cr may be accumulated in courses numbered 931-935. Prereq: grad st & enroll in Chem 996(C).

933 Advanced Seminar in Inorganic Chemistry. 1 cr. G.

Weekly discussions and reports on recent developments and current progress in inorganic chemistry. Topics will differ each semester, reflecting current work of particular interest. Retakable to 9 cr max. No more than 9 cr may be accumulated in courses numbered 931-935. Prereq: grad st & enroll in Chem 994(C).

934 Advanced Seminar in Organic Chemistry. 1 cr. G.
Weekly discussions and reports on recent developments and current progress in organic chemistry. Topics will differ each semester, reflecting current work of particular interest. Retakable to 9 cr max. No more than 9 cr may be accumulated in courses numbered 931-935. Prereq: grad st & enroll in Chem 990(C).

935 Advanced Seminar in Physical Chemistry. 1 cr. G.
Weekly discussions and reports on recent developments and current progress in physical chemistry. Topics will differ each semester, reflecting current work of particular interest. Retakable to 9 cr max. No more than 9 cr may be accumulated in courses numbered 931-935. Prereq: grad st & enroll in Chem 992.

990 Research: Organic. 1-9 cr. G.
- Retakable. Prereq: grad st.

992 Research: Physical. 1-9 cr. G.
- Retakable. Prereq: grad st.

993 Research: Analytical. 1-9 cr. G.
- Retakable. Prereq: grad st.

994 Research: Inorganic. 1-9 cr. G.
- Retakable. Prereq: grad st.

996 Research: Biochemical. 1-9 cr. G.
- Retakable. Prereq: grad st.

CLINICAL LABORATORY SCIENCES

- Phone: (414) 229-3124
- Fax: (414) 229-2619
- E-mail: burlage@uwm.edu

School/College: College of Health Sciences

Degree Conferred:

- MS in Clinical Laboratory Sciences

Overview

The Clinical Laboratory Sciences Program in the Department of Health Sciences offers a program of graduate study providing an advanced level of training for medical technologists and other biomedical scientists. Major emphasis in the program is placed on developing an understanding of the mechanisms of human disease and providing broad-based training in laboratory medicine and biomedical sciences. In-depth training is offered in selected areas of emphasis which include: Biomedical Research in chemistry, hematology, immunology, microbiology, and nutrition; Management; Marketing; and Education. The M.S. degree requirements include a thesis based on research which enhances the student's problem-solving abilities and enables that individual to function more effectively in the clinical laboratory and the biomedical field.

Graduate Faculty

Professors

Dellinger, John, Ph.D., University of Illinois
Eells, Janis, Ph.D., University of Iowa
Lambrecht, Randall S., Ph.D., University of Wisconsin-Madison

Associate Professors

Azenabor, Anthony, Ph.D., University of Benin, Nigeria
Burlage, Robert, Ph.D., University of Tennessee
Ndon, John, Ph.D., Meharry Medical College

Assistant Professors

Firmani, Marcia, Ph.D., University of California-Berkeley
Lyons, Jeri-Anne, Ph.D., Medical College of Wisconsin
Partington, Susan, Ph.D., University of Wisconsin-Madison

Master of Science in Clinical Laboratory Sciences

Admission

An applicant must meet Graduate School requirements plus the following requirements to be considered for admission

1. The program primarily enrolls individuals with backgrounds in Clinical Laboratory or a related field who have completed a bachelor's degree at an accredited institution. For students entering without a degree in a related area, the faculty determines deficiencies to be overcome prior to admission. Students may apply for admission at any time during the year; however, review of completed applications will take place twice annually, during the second week of November and March of each year for enrollment beginning the following semester. Applications received after these dates may be considered if space is available in the program. International applicants must have all application materials submitted no less than 8 months prior to the desired date of enrollment. Students may enroll on a full-time or a part-time basis.
2. Applicants may be admitted to regular status if their grade point average is the equivalent of 2.75 or above (scale of 4.0). Averages below 2.75 may be considered for admission on a probationary basis, in which case particular attention is given to the last 60 hours completed in the undergraduate program, with special emphasis on performance in science courses. Probationary status is removed after successful completion of the first eight graduate credits with a grade point average of 3.0 or above.
3. Graduate Record Examination scores on the General Test are required.
4. Three letters of reference, preferably from academic and/or clinical sources, must be submitted.
5. Along with the application form, the applicant must submit a letter of not more than l,000 words stating career objectives and reasons for seeking a graduate degree in clinical laboratory sciences.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. Students are permitted a choice of research/specialty emphasis, and an advisor is assigned according to faculty advising loads.

Credits and Courses

The minimum degree requirement is 32 graduate credits. A minimum of 6 credits of core curricular requirements must be taken. In addition, a minimum of 4 credits in seminar (710), and a minimum of 8 credits in research (799) must be taken. Of the remaining 14 credits required for the degree, a minimum of 6 credits must be taken as elective subspecialty courses offered by the program.

Thesis

The student must write an acceptable thesis based in part on original research and pass a final oral examination in defense of the thesis.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

420 Clinical Hematology. 3 cr. U/G.
Lectures in the production, regulation, function, and cytomorphology of normal hematopoietic elements. Introduction to hemostastis theory. Prereq: jr st or cons instr.

427 Clinical Immunology. 3 cr. U/G.
Fundamentals of Clinical Immunology, including cellular, humoral and molecular aspects. Correlation of laboratory test results with clinical disease states. Prereq: jr st.

431 Clinical Chemistry. 3 cr. U/G.
Correlation of clinical chemistry with the pathophysiology of human disease. Prereq: jr st; Chem 501(P) or cons instr; or grad st.

497 Clinical Laboratory Sciences - Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: acceptance to Study Abroad Prog.

534 Medical Microbiology. 2 cr. U/G.
Advanced comprehensive study of microorganisms that influence human health and disease. Emphasis on identification/diagnosis and microbial attributes and mechanisms that facilitate infectious disease. Prereq: jr st & Bio Sci 303(P); or grad st; or cons instr.

535 Medical Microbiology Laboratory. 2 cr. U/G.
Formal systematic laboratory study of microorganisms important in human health and disease. Emphasis on current methods of detection, identification and treatment. 4 hr lab. Prereq: jr st & Bio Sci 303(P), or cons instr; C L Sci 534(C).

537 Medical Parasitology and Mycology. 2 cr. U/G.
Lectures and laboratory dealings with the medically significant parasitic and mycotic agents of human disease. Prereq: sr st in C L Sci Prog; or grad st; or cons instr.

539 Public Health Microbiology. 2 cr. U/G.
The role of microbiological analysis in public health and the current techniques for detecting, identifying, and enumerating pathogenic microorganisms. Prereq: jr st &

Bio Sci 383(303)(P), or grad st; or cons instr.

540 Public Health Microbiology Lab. 1 cr. U/G.
Current laboratory techniques for detecting, identifying, and enumerating pathogenic microorganisms. Prereq: jr st, or cons instr; C L Sci 539(C).

552 Advanced Nutrition. 2 cr. U/G.
Nutrient utilization and human metabolism, nutritional influences in anthropology, epidemiology and international development issues. Prereq: jr st; C L Sci 232(P) or Bio Sci 501(P).

555 Toxicology and Therapeutic Drug Monitoring. 1 cr. U/G.
Survey of the pharmacology and analytical methods for identification and quantitation of therapeutic and toxic substances. Prereq: jr st, & Chem 341(P) or 345(P); or cons instr.

560 Molecular Diagnostics. 2 cr. U/G.
Introduction to principles and applications of DNA technology in the clinical laboratory. Prereq: jr st, Chem 501(P); or grad st.

560 (effective 01/26/2009) Molecular and Genetic Diagnostics. 2 cr. U/G.
Introduction to principles and applications of DNA technology in the clinical laboratory. Prereq: jr st, Chem 501(P); or grad st.

561 Molecular Diagnostics Laboratory. 1 cr. U/G.
Clinical laboratory experiences in molecular diagnostic techniques and instrumentation. Prereq: jr st & C L Sci 560(C); or grad st & C L Sci 705(P); or cons instr.

590 Topics in Clinical Laboratory Sciences: (Subtitled). 1-5 cr. U/G.
Topics of current interest in the field of clinical laboratory sciences. The major theme for each semester offering will be posted. May be repeated with change in topic to max of 9 cr for grad students. Prereq: jr st; cons instr for grad cr.

610 Pharmacology. 3 cr. U/G.
Lectures on pharmacokinetics, mechanisms of action, and physiological effects of toxic and therapeutic substances. Prereq: jr st, Chem 501(P), or cons instr.

615 Cellular and Molecular Toxicology. 3 cr. U/G.
Cellular and molecular mechanisms of toxicant interactions with critical target organelles and molecules and subsequent downstream cellular responses. Prereq: jr st, Chem 501(P) or cons instr; or grad st.

701 Human Pathophysiology I. 3 cr. G.
An advanced course in basic pathological mechanisms underlying production of human disease and effects on selected organ systems. Prereq: grad st or cons instr.

702 Human Pathophysiology II. 3 cr. G.
A continuation of 701 dealing with pathogenesis of the major diseases of human organ systems. Prereq: grad st; C L Sci 701(P) or cons instr.

710 Seminar in Clinical Laboratory Sciences. 1 cr. G.
Presentation of topics of current interest to the clinical laboratory scientist. May be repeated to max of 9 cr. Prereq: grad st or cons instr.

715 Medical Laboratory Management and Education. 2 cr. G.
Introduction to management and education theory and application to the clinical laboratory. Prereq: grad st or cons instr.

717 Laboratory Technology-Theory and Practice. 1 cr. G.
Fundamental laboratory bench techniques common to the biological sciences to prepare students for independent research. Prereq: grad st.

718 Experimental Design, Research, and Epidemiologic Methods. 1 cr. G.
Fundamentals of laboratory, clinical and epidemiologic experimental design for beginning graduate students in the Health Sciences. Prereq: grad st; Biostat or undergrad stats course or cons instr

765 Advanced Physiologic Chemistry. 3 cr. G.
Advanced theoretical skills and an appreciation of the current scientific literature in basic and clinical physiologic chemistry. Prereq: Chem 501(P) or cons instr.

772 Antimicrobial Agents and Chemotherapy. 3 cr. G.
A survey of the effects of antibiotics and chemotherapeutic agents in microorganisms and man. Mode of action, principles of antimicrobial chemotherapy application to basic research. Prereq: lc & la course in medical microbiology; grad st or cons instr.

775 Mechanisms of Infectious Disease. 2 cr. G.
Review of current molecular and cellular aspects of infectious disease as related to microbial determinants of virulence and the host response. Prereq: lc & la course in medical microbiology; grad st or cons instr.

782 Advanced Immunology. 3 cr. G.
Cellular basis of the immune response with emphasis on immunoregulation and clinical disease manifestations resulting from altered cellular immune function. Prereq: grad st; course in immunology; or cons instr.

799 Research in Clinical Laboratory Sciences. 1-8 cr. G.
- Prereq: grad st; cons instr.

901 Seminar on Philosophical Approaches to Science. 3 cr. G.
The nature and function of sciences, the logic of the scientific method as it relates to health, and implications of research and practices in health care. C L Sci 901 & LibrlSt 901 are jointly offered; they count as repeats of one another. Prereq: grad st.

909 (effective 01/26/2009) Guided Teaching Experience in Health Sciences. 3 cr. G.
This course provides the student, under the supervision of a faculty member, with the opportunity to design, deliver, and evaluate an undergraduate course. Jointly offered w/ and counts as a repeat of HCA 909. Prereq: grad st; Occ Thpy 900(P); cons instr

910 Advanced Seminar in Health Sciences. 1 cr. G.
Faculty, students, and guests present research topics in the Health Sciences. Retakable to 4 cr max. Prereq: grad st

990 Research and Dissertation. 1-6 cr. G.
Preparation of a dissertation under the direction of the student's primary and secondary advisors. Prereq: grad st; cons instr.

999 Advanced Independent Study. 1-3 cr. G.
Individualized experience enables student to study current topics of interest to the clinical laboratory scientist. Level of credit assigned based on time required for completion. Prereq: grad st; cons instr.

COMMUNICATION

- Phone: (414) 229-4261
- Fax: (414) 229-3859
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School/College: College of Letters and Science

Degree Conferred:

- MA in Communication
- PhD in Communication

Overview

The Department of Communication offers MA and PhD programs. The Master of Arts is designed to provide breadth and depth of study in the following areas: Organizational/ Professional Communication, Intercultural/ International Communication, Interpersonal Communication/Mediation, and Rhetoric/ Public Communication. The program provides initial and advanced preparation for a variety of careers including continued study leading to the PhD degree.

The Doctor of Philosophy in Communication provides study and training for entry into academic or professional careers that would necessitate theory-driven basic or applied research on communication practices and outcomes. The program's thrust emphasizes studying the effects of professional communication practices on organizational goals and structure, the processes of interpersonal communication and conflict resolution, and the conduct of civic practice and public communication.

Graduate Faculty

Professors

Allen, Michael, Ph.D., Michigan State University
Braman, Sandra, Ph.D., University of Minnesota
Burrell, Nancy, Ph.D., Michigan State University, Chair
Dindia, Kathryn A., Ph.D., University of Washington
Johnson, John R., Ph.D., University of Denver
Keith, William, Ph.D., University of Texas-Austin
Lim, Tae-Seop, Ph.D., Michigan State University
Meyers, Renee, Ph.D., University of Illinois
Olson, Kathryn M., Ph.D., Northwestern University

Associate Professors

Jordan, John, Ph.D., University of Georgia
Mabry, Edward A., Ph.D. Bowling Green State University
Timmerman, Lindsay, Ph.D., University of Texas
Timmerman, C. Erik, Ph.D., University of Texas

Assistant Professors

Fonner, Kathryn, Ph.D., Northwestern University
Harris, Leslie, Ph.D., Northwestern University
Peterson, Jennifer, Ph.D., University of Illinois - Urbana/Champaign
Szmania, Susan, Ph.D., University of Texas-Austin

Master of Arts in Communication

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

1. Possess the equivalent of an undergraduate major in speech, speech communication, or related areas.
2. Possess an undergraduate grade point average of 3.00 in the major.
3. Submit three letters of recommendation from persons capable of judging the applicant's capacity for success in a graduate program of study.
4. Submit scores from verbal, quantitative, and analytical sections of the Graduate Record Examination.
5. Submit a sample of written work from an academic and/or professional assignment.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Applicants without the requisite grade point average may be considered for admission on a probationary basis.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The major professor should be designated no later than the end of the student's first year of enrollment. The incoming student is assigned the Graduate Coordinator or other program faculty member as an initial advisor until a major professor is selected.

Credits and Courses

The minimum degree requirement is 30 credits, including 24 credits taken in the Department of Communication and 24 credits selected from courses number 700 or above. The 30 graduate credits are composed of 15 required credits and 15 elective credits, 6 of which may be taken outside the department.

Students must complete either a comprehensive examination or a thesis. Effective Fall 2009, a professional project will replace the comprehensive examination option.

Required Courses

General

- **800** Proseminar: The Discipline of Communication, 3 cr

One of the following Methods Course

- **700** Quantitative Research in Communication, 3 cr
- **701** Critical Analysis of Communication, 3 cr
- **702** Qualitative Research in Communication, 3 cr
- **770** Measurement and Evaluation in Speech Communication, 3 cr

One Course from Three of the Four Content Areas, 9 cr

Organizational/Professional Communication

- **627** Designing and Developing Communication Training Interventions
- **710** Managerial Communication
- **727** Seminar in Communication and E-learning
- **810** Studies of Communication in Organizations
- **813** Seminar in Mediated Communication
- **823** Seminar in Small Group Communication
- **827** Seminar in Programs of Adult Communication
- **860** Seminar: Issues in Communication (with appropriate subtitle)

Intercultural/Global Communication

- **550** International and Global Communication
- **655** Cultural Training and Adjustment
- **681** Seminar in Communication in a World of AIDS
- **850** Seminar in Intercultural Communication
- **860** Seminar: Issues in Communication (with appropriate subtitle)

Interpersonal Communication/Conflict Management

- **665** Introduction to Mediation
- **675** Communication in International Mediation and Peacebuilding
- **801** Seminar in Interpersonal Communication
- **802** Marital and Family Communication
- **860** Seminar: Issues in Communication (with appropriate subtitle)
- **864** Communication and Social Influence
- **865** Theory and Practice of Mediation

Rhetoric/Public Communication

- **667** Great American Speakers and Issues

- **672** Communication and Social Order
- **735** Theories of Rhetorical Communication
- **762** Argumentation in Theory and Practice
- **772** Rhetorical Leadership and Ethics
- **835** Seminar in Contemporary Public Address
- **860** Seminar: Issues in Communication (with appropriate subtitle)
- **872** Rhetoric of Constituting Community & Social Controversy

Elective Credits

The remaining 15 credits are selected by the student in consultation with his/her major advisor. A maximum of six credits outside the department may be counted toward the degree. A maximum of 6 credits below the 700 level may be counted toward the degree. A maximum of 6 credits in Commun 860 may count toward the degree. In addition, the following courses and credits may be counted toward the degree, but a maximum of 9 credits selected from the combination of Commun 998, Commun 999, and courses outside the department may count.

- **990** Research and Thesis (1 to 6 credits may count toward the degree)
- **998** Communication Internship (a maximum of 3 credits may count toward the degree)
- **999** Independent Study (a maximum of 3 credits may count toward the degree)

Rhetorical Leadership Concentration

Interested students may complete a concentration in rhetorical leadership that will be designated on their transcripts. The concentration requires the following courses, which students may select to meet the M.A. degree's course requirements:

Required courses (6 cr)
- **772** Rhetorical Leadership and Ethics, 3 cr
- **762** Argumentation in Theory and Practice, 3 cr ***OR*** 872 Rhetorics of Constituting Community and Social Controversy, 3 cr

Electives (9 cr)
- **665** Introduction to Mediation, 3 cr
- **667** Great American Speakers and Issues, 3 cr
- **672** Communication and Social Order, 3 cr
- 701* Critical Analysis of Communication, 3 cr
- **735** Rhetorical Theory, 3 cr [title change pending]
- **762** Argumentation in Theory and Practice, 3 cr (if not selected above)
- **835** Seminar in Contemporary Public Address, 3 cr
- **860** Seminar: Issues in Communication: (Subtitle, with a rhetorical topic), 3 cr
- **862** Public Deliberation, 3 cr
- **865** Theory and Practice of Mediation, 3 cr
- **872** Rhetorics of Constituting Community and Social Controversy, 3 cr (if not selected above)
- **873** The Digital Mirror, 3 cr
- **882** The Rhetoric of Kenneth Burke, 3 cr
- **893** Rhetoric of/and the Internet, 3 cr
- 972* Advanced Methods in Communication Research: (Subtitle, with rhetorical topic)
- **998** Communication Internship, 1-3 cr (with rhetorical leadership topic directed by a member of the Rhetorical Leadership Committee)

*students may count 701 or 972, but not both, toward certificate requirements

These courses complete one content area and 12 elective credits of the degree.

Comprehensive Examination (to be discontinued as of Fall 2009)

If the comprehensive exam option is chosen, the student must pass a written and oral examination, given by a faculty committee chaired by the major professor, demonstrating proficiency in integrating knowledge within and among subject matter areas. The examining committee is chosen by the faculty advisor in consultation with the student. The written portion of the comprehensive examination is approximately 8 hours in length, requires preparation beyond coursework taken in the program of study, and may not be attempted before the semester in which the students will complete a minimum of 24 credits in the program, including all required course work. The oral examination follows satisfactory completion of the written examination and is conducted by faculty members of the examining committee.

MA Portfolio Project

At the master's level, the M.A. Portfolio Project (MAPP) is designed to allow students to synthesize their accomplishments during the M.A. program and identify their strengths and needs as they pursue objectives beyond graduate school. In conjunction with the completion of 30-credit hours (per Department of Communication M.A. guidelines), students who successfully complete a MAPP will meet the requirements for the M.A. in Communication.

The M.A. Portfolio Project will provide students with an opportunity to:

- Compile documentation of academic accomplishments during the pursuit of an M.A.
- Synthesize the primary contributions of M.A. coursework
- Critically reflect upon accomplishments in written work.
- Reflect upon the accomplishment of their initial goals and objectives for the M.A., and articulate future career goals and objectives that will utilize the skills/knowledge gained.
- Establish a connection with a field expert (e.g., an individual who works in the student's desired employment sector or a member of a community group with whom the student hopes to work) and gain additional information about activities the student may wish to pursue after graduation.
- Reflect upon one's understanding of future pursuits and draw connections between the M.A. experience and the nature of this type of work/service.

Thesis Option

A thesis involves applied or basic research and is a proven method for developing specialized knowledge and skills that can enhance an individual's expertise within a substantive area of study. A thesis is recommended for students who intend to continue study toward the PhD degree or plan research-related employment. If the thesis option is elected, the student must initiate and write an original research project under the guidance of his/her major professor; the student also must pass an oral defense of the finished project conducted by his/her thesis committee.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Communication

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program in regular status:

- Have a cumulative GPA in course work for the Master's degree of at least a 3.33 (B+). Applicants possessing the Master of Arts/Science in Communication (or an equivalent degree) are preferred. Applicants without a master's degree must satisfy all requirements for admission to the Master of Arts in Communication degree program and must possess an undergraduate cumulative GPA of at least a 3.33 (B+) in their major and an overall undergraduate GPA of at least 3.00 (B). ***Effective fall 2009, all applicants must have completed the Master of Arts/Science in Communication (or an equivalent degree).***

- Submit letters of recommendation from at least three (3) communication professionals attesting to the student's capability to perform satisfactorily at the doctoral level (academic references preferred).
- Submit a writing sample that demonstrates the applicant's analytical and critical thinking skills.

Applicants lacking the requisite GPA, and those without the Master of Arts/Science in Communication (or an equivalent degree) may be considered for admission on probation, and may be required to complete preparatory coursework.

Reapplication/Readmission

Students who receive the MA in Communication from UWM must reapply to be considered for admission to the PhD program.

Major Professor as Advisor

Initially, unless a student specifically requests a particular faculty member, all doctoral students are assigned an "interim" advisor. After the completion of 12 credits, a student is required to designate a faculty member with specialized interests compatible with those of the student to act as the major professor. The major professor is expected to assist the student in planning the remainder of the program of studies, chair the student's preliminary examination committee, supervise the completion of the PhD dissertation, and conduct of the dissertation defense meeting. All students should consult the departmental handbook for additional details on departmental policies and procedures.

Residence

The student must meet minimum Graduate School residence requirements of one continuous academic year of full-time graduate studies at UWM. This can be satisfied by completing at least 8 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions. Residence credit cannot be earned at the master's level.

Course of Study

To fulfill the credit requirement for the Ph.D. in Communication, a student must complete at least 54 credits beyond the master's degree, of which 48 must be numbered 700 or above. Thirty-three credits must be taken from the Communication Department. Courses taken toward a master's degree will not apply to the doctoral program of studies. The 54 credits must be distributed as follows:

- A minimum of 6 credits of course work from communication research tools in courses numbered 900 or above, 3 credits of which must be in Commun 900. (Students will determine additional research tool credits in consultation with their advisor, so as to demonstrate methodological competence in their chosen area of study.)
- A minimum of 15 credits reflecting the student designing a thematic program of study combining theory and praxis in the study of communication processes.
- A minimum of 21 additional elective credits.
- A maximum of 12 credits for completion of the doctoral dissertation [Commun 990] may be applied toward the 54 credit requirement.

Transcript-Designated Concentration in Rhetorical Leadership

Within the Ph.D., students may elect to fulfill a transcript-designated concentration in Rhetorical Leadership by completing 15 credits as follows:

Required courses (6 cr):

- Commun 772 Rhetorical Leadership and Ethics, 3 cr
- At least one of:
  - Commun 762 Argumentation in Theory and Practice, 3 cr
  - Commun 872 Rhetorics of Constituting Community and Social Controversy, 3 cr

Electives (9 cr):

- Commun 701* Critical Analysis of Communication, 3 cr
- Commun 735 Rhetorical Theory, 3 cr [title change pending]
- Commun 762 Argumentation in Theory and Practice, 3 cr (if not selected above)
- Commun 835 Seminar in Contemporary Public Address, 3 cr
- Commun 860 Seminar: Issues in Communication: (Subtitle, with a rhetorical topic), 3 cr
- Commun 862 Public Deliberation, 3 cr
- Commun 865 Theory and Practice of Mediation, 3 cr
- Commun 872 Rhetorics of Constituting Community and Social Controversy, 3 cr (if not selected above)
- Commun 873 The Digital Mirror, 3 cr
- Commun 882 The Rhetoric of Kenneth Burke, 3 cr
- Commun 893 Rhetoric of/and the Internet, 3 cr
- Commun 972* Advanced Methods in Communication Research: (Subtitle, with rhetorical topic), 3 cr
- Commun 998 Communication Internship, 1-3 cr (with rhetorical leadership topic directed by a member of the Rhetorical Leadership Committee)

*students may count Commun 701 or 972, but not both, toward concentration requirements

Comprehensive Preliminary Examination

A student must pass all components of a comprehensive preliminary examination to be advanced to candidacy for the doctoral degree. The examining committee is responsible for setting an examination schedule agreeable to all parties subject to the constraints that: (a) examinations must include at least 18 hours of questioning, and (b) must be completed in no longer than two (2) calendar weeks. Each member of the examining committee must read and pass the student on all examination questions the faculty member contributes. The student must receive a passing evaluation from all members of the committee on the written portion of the examination in order to attempt an oral defense of the examination. An affirmative vote constitutes the committee's decision to advance the student to candidacy for the doctoral degree.

Students who fail the doctoral preliminary examination may not proceed to the dissertation. The exam may be retaken only once. The preliminary examination must be successfully completed within five years of initial enrollment.

Dissertation

The candidate, under the supervision of the major professor and in collaboration with a dissertation committee, must write a dissertation that demonstrates the ability to formulate a research topic and pursue an independent and original investigation of the chosen topic. The practices for the dissertation will conform to the guidelines established by the UWM Graduate School. The dissertation committee shall be composed of the major professor and four additional graduate faculty members (at least three of whom must be from the Communication Department's graduate faculty). The dissertation committee is responsible for assessing the dissertation project, which involves approving the dissertation prospectus proposal, reviewing working drafts of research in progress, and, finally, evaluating the candidate's ability to defend decisions made during the course of research. After submission of a reading copy of the dissertation to the faculty dissertation committee, the candidate and the major professor will schedule a committee meeting for the purpose of undertaking an oral defense of the dissertation work by the candidate. At the conclusion of the candidate's oral remarks, the dissertation committee will vote on passing the candidate's dissertation work. A majority of the committee must vote to approve the dissertation and recommend granting of the Doctor of Philosophy degree.

Time Limit

All components of the PhD program must be completed within 10 years of matriculation.

Graduate Certificate in Mediation and Negotiation

The Department of Communication, in cooperation with the Master's in Human Resources and Labor Relations (MHRLR) and the Lubar School of Business, offers the Graduate Certificate in Mediation and Negotiation. The program of study is designed to provide practical and theoretical knowledge for students who wish to pursue or advance careers that involve managing or resolving disputes in organizational, educational, community, or family contexts. The program is designed to meet the increasing need of business, organized labor, public sector and community organizations for people with skills in conflict resolution.

Using an interdisciplinary approach, the program offers a basic knowledge of mediation and negotiation between individuals and across organizations, allows some specialization in further course work, and is integrated with a final course involving either field-work or a research paper written under the direction of an expert in the area.

Students can complete the Graduate Certificate in Mediation and Negotiation while enrolled either part-time or full-time, and by taking courses during evenings and/or weekends. With the approval of the program, students admitted to either the MA in Communication or the MRLR degree program may apply courses taken to meet certificate requirements toward their degree.>

Admission

Students applying for the Certificate Program in Mediation and Negotiation must hold a bachelor's degree and must have earned a 2.75 GPA overall or must furnish substantial evidence of ability to succeed in graduate level work. Students may apply to the Graduate School as candidates for the certificate program in non-degree status, or they may pursue the certificate while enrolled in another graduate program.>

Credits and Courses

The certificate requires 12 credits, including 9 credits of course work and 3 credits of field work or research.

Required Courses
- Comm 665 Introduction to Mediation
- Econ 753 Collective Bargaining

Elective Course (one of the following)
- Comm 865 Theory and Practice of Mediation
- IR 715 Arbitration and Dispute Resolution
- IR 800 Alternative Dispute Resolution
- Bus Adm 737 Managerial Decisions and Negotiations

Field Work or Research Requirement, 3cr (one of the following)
- Comm 998 Internship in Communication
- Comm 999 Independent Study
- IR 801 Research Seminar in Industrial and Labor Relations
- IR 921 Internship in Industrial Relations
- IR 999 Independent Study
- Bus Adm 799 Reading and Research

Recommended or Related Courses (not required for the Certificate)
- Comm 710 Managerial Communication
- Comm 823 Seminar in Small Group Communication
- EdPol 510 Foundations of Human Relations
- IR 714 Industrial Relations in the Public Sector
- Soc 766 Theory and Method in Social Psychology

Graduate Certificate in Rhetorical Leadership

Leadership is a highly valued, yet always scarce resource in all areas requiring coordinated action: civil society, professional work, profit and non-profit venues, religious and social action contexts. Communication's "Rhetorical Leadership" certificate program prepares leaders with humanistic knowledge, skills and attitudes through five graduate courses. "Rhetorical Leadership and Ethics" covers rhetoric's role in and potential for responsible leadership in multiple arenas; it is informed by the long history of debate over the legitimacy of studying rhetoric as a means of promoting joint action. "Theories of Rhetorical Communication" introduces certificate students to the vast, nearly three milennia-long theoretical range of the rhetorical tradition. "Communication and Social Order" examines how existing institutions and values get established and "naturalized" using symbolic action and conversely how they can be challenged strategically through rhetoric. The more advanced "Rhetoric of Constituting Community and Social Controversy" addresses explicitly the rhetorical range available to leaders, whether their main goal is constituting communities or promoting change in ways that the existing decision-making channels cannot accommodate. "Argumentation in Theory and Practice" integrates argumentative theory and practice in ways that are useful for potential leaders; it involves some performance-based learning that requires students to test their preferred theory alternatives in action.

Applicants must have completed a bachelor's degree prior to admission, must have a minimum 2.75 cumulative undergraduate grade point average, and must declare their intent to pursue the certificate before completion of six credits in the certificate sequence. Applicants not already admitted to the Graduate School must complete the UW System online admission application.

Students must earn a minimum cumulative 3.00 grade point average in certificate courses taken at UWM.

Required courses (6 cr)
- **772** Rhetorical Leadership and Ethics, 3 cr
- **762** Argumentation in Theory and Practice, 3 cr ***OR*** 872 Rhetorics of Constituting Community and Social Controversy, 3 cr

Electives (9 cr)
- **665** Introduction to Mediation, 3 cr
- **667** Great American Speakers and Issues, 3 cr
- **672** Communication and Social Order, 3 cr
- 701* Critical Analysis of Communication, 3 cr
- **735** Rhetorical Theory, 3 cr [title change pending]
- **762** Argumentation in Theory and Practice, 3 cr (if not selected above)
- **835** Seminar in Contemporary Public Address, 3 cr
- **860** Seminar: Issues in Communication: (Subtitle, with a rhetorical topic), 3 cr
- **862** Public Deliberation, 3 cr
- **865** Theory and Practice of Mediation, 3 cr
- **872** Rhetorics of Constituting Community and Social Controversy, 3 cr (if not selected above)
- **873** The Digital Mirror, 3 cr
- **882** The Rhetoric of Kenneth Burke, 3 cr
- **893** Rhetoric of/and the Internet, 3 cr
- 972* Advanced Methods in Communication Research: (Subtitle, with rhetorical topic)
- **998** Communication Internship, 1-3 cr (with rhetorical leadership topic directed by a member of the Rhetorical Leadership Committee)

*students may count 701 or 972, but not both, toward certificate requirements

Students who have little experience in positions of responsibility will be encouraged to participate in a relevant internship during the course of their studies. The program will assist students in identifying appropriate opportunities.

For post-baccalaureate students, a maximum of 3 graduate credits may be transferred to count toward the certificate program's 15-credit requirements. Courses will be considered for transfer into the certificate program only if the applicant can provide ample, acceptable evidence that the course taken is substantially the same as one of the five courses that constitute the certificate program. The Rhetorical Leadership Committee will make

such determinations, and its decision is final. No transfer credit is allowed for post-graduate students.

For those simultaneously enrolled in a degree program, up to 50% of the credits required for the certificate may count toward degree requirements, subject to approval of the degree program.

Non-degree students pursuing a "Rhetorical Leadership" certificate will have three years from initial enrollment in a certificate course to complete the certificate requirements. Degree students pursuing a "Rhetorical Leadership" certificate will have the same time limit to complete the "Rhetorical Leadership" certificate requirements as they have for completing the degree program.

The certificate will be awarded upon successful completion (i.e., once all grades for the certificate courses taken at UWM are officially recorded and show a cumulative GPA of 3.0 or more) of the certificate program requirements.

For more information or to apply for the certificate program, please contact the program coordinator.

Graduate Certificate in Professional Writing and Communication

The Graduate Certificate in Professional Writing and Communication is designed for students who wish to pursue professional careers in technical writing, communication, corporate training and instructional design, or user interface and Web-document design.

Admission

Students must have completed a bachelor's degree with a minimum GPA of 2.75 and must submit the following materials with their graduate school application:

1. A portfolio of writing samples.
2. Two letters of recommendation from persons knowledgeable about applicants' recent academic or work experience.
3. A statement of purpose that identifies the applicants' knowledge of workplace communication practices and business operations, their professional experience, or basic undergraduate coursework in business writing, technical writing, and communication.
4. A statement describing the applicants' access to and operational knowledge of online communication technology, including a PC or equivalent computer system with Internet access and other applications sufficient to participate in the program's online learning activities.

Applicants must declare their intent to pursue the Certificate program before completion of six credits in the Certificate sequence.

Credits and Courses

Students must complete 15 credits of course work as outlined below. The Certificate will be awarded when students achieve the following:

1. Complete 9 credits in required courses in English.
2. Complete 6 credits from a choice of courses in Communication.
3. Earn a minimum cumulative GPA of 3.0 in the courses that apply to the Certificate.

With the consent of the Certificate Coordinator and subject to the Graduate School transfer policy, students who have completed appropriate courses for graduate credit at other institutions may transfer up to three credits into the Certificate Program, provided that the courses were completed within the last five years with a grade of B or better.

Required English Courses, 9 cr

- 708: Advanced Professional Writing OR 436: Professional Writing
- 709: Rhetoric, Writing, and Information Technology OR 436: Writing for Information Technology
- 710: Advanced Project Management for Professional Writers OR 437: Project Management for Professional Writers

Students who within the past five years have successfully completed courses equivalent to these required English courses may, with the approval of the Certificate Coordinator, substitute alternate English graduate courses.

Required Communication Courses (in consultation with Program Coordinator), 6 cr

- 627: Designing and Developing Communication Training Interventions
- 810: Studies of Communication in Organizations
- 813: Seminar in Mediated Communication
- 823: Seminar in Small Group Communication
- 827: Seminar in Programs of Adult Communication

Students who intend to enroll in both the Certificate program and a graduate degree program must apply for admission to both the Certificate program and to the graduate degree program of their choice. With the approval of the graduate coordinator of the student's graduate program, up to six credits completed in the Certificate also may satisfy graduate program requirements.

Students not concurrently enrolled in a UWM graduate degree program later may transfer credits completed in the Certificate to a UWM graduate degree program, subject to Graduate School transfer policy and subject to the guidelines and approval of the graduate coordinator of the respective degree program.

Students seeking admission to the Certificate and to graduate degree programs are advised to seek the advice of graduate coordinators of each program.

Time Limit

A student must complete all requirements for the Certificate within 3 years of his/her initial enrollment.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; satisfaction of GER English Composition competency req; acceptance for Study Abroad Prog.

550 International and Global Communication. 3 cr. U/G.
Models, theories, and contexts of relational communication between people from different nation states, viewed from interpersonal, small group, organizational, and rhetorical perspectives. Prereq: jr st; Commun 350(P) or 450(P); satisfaction of GER English Composition competency req; or cons instr.

627 Designing and Developing Communication Courses and Programs. 3 cr. U/G.
Theory/methods in designing/developing communication courses/programs for academic (college)/organizational (training) environments. Students design/develop instructional materials for online and/or onsite delivery. Prereq: jr st; 9 crs Commun 300-level or above; declared Commun or BAOA major; satisfaction of GER English Composition competency req; or cons instr.

655 Cultural Training and Adjustment. 3 cr. U/G.
Theories and research related to the role of communication in cultural adjustment processes, cultural training, and evaluation of training. Prereq: jr st; Commun 350(P) or 450(P); satisfaction of GER English Composition competency req; or cons instr.

665 Introduction to Mediation. 3 cr. U/G.
Course focuses on learning about the mediation process, related theories, and its application in a variety of contexts. Students receive twenty hours of mediation training. Prereq: jr st; satisfaction of GER English Composition competency req.

667 Great American Speakers and Issues. 3 cr. U/G.
Selected great speakers and their speeches on major issues in American history. Prereq: jr st; satisfaction of GER English Composition competency req.

672 Communication and Social Order. 3 cr. U/G.
The role of communication in both maintaining and challenging social structures and hierarchies. Prereq: jr st; satisfaction of GER English Composition competency req.

675 Communication in International Mediation and Peacebuilding. 3 cr. U/G.
The various forms of international mediatory activity employed to bring sustainable peace to areas gripped by ethnic and social conflict. Prereq: jr st; satisfaction of GER English Composition competency req; or cons instr.

681 Seminar in Communication in a World of AIDS. 3 cr. U/G.
Communication issues surrounding education and prevention of HIV infection both in the United States and across the world. Prereq: jr st; satisfaction of GER English Composition competency req.

700 Quantitative Research in Communication. 3 cr. G.
Introduction to the methods and techniques of quantitative research in communication, with special focus on problems of experimental and field research. Prereq: grad st.

701 Critical Analysis of Communication. 3 cr. G.
Introduction to the methods and techniques of humanistic research in communication, with special focus on problems of criticism and history. Prereq: grad st.

702 Qualitative Research in Communication. 3 cr. G.
Methods and techniques of qualitative research in communication; special focus on problems of discourse analysis and interaction observation. Prereq: grad st.

705 Communication for Professionals. 3 cr. G.
Development of communication knowledge and skills (interpersonal, group and team, presentational, electronic) fundamental to successful professional activities. Does not count toward a Graduate degree in Communication. Prereq: grad st.

710 Managerial Communication. 3 cr. G.
Designed for organizational communication practitioners; surveys analytic and implementation skills necessary for effective management of communication processes. Prereq: grad st.

727 Seminar in Communication and E-Learning. 3 cr. G.
Theoretical and applied issues related to teaching communication within an e-learning environment. For individuals interested in college teaching/corporate training. Prereq: grad st.

735 Theories of Rhetorical Communication. 3 cr. G.
Critical study of various humanistic theories of rhetorical communication. Major emphasis on contemporary theories, trends, and concepts. Prereq: grad st.

735 (effective 01/26/2009) Rhetorical Theory. 3 cr. G.
Critical study of various humanistic theories of rhetorical communication. Major emphasis on contemporary theories, trends, and concepts. Prereq: grad st.

762 Argumentation in Theory and Practice. 3 cr. G.
Argumentation theories in a performance-based context to train citizen-scholars. Assumes no prior knowledge of argumentation theories. Prereq: grad st.

768 Seminar in Theories of Speech Communication. 3 cr. G.
Examination of the structure, use, development, evaluation and integration of social scientific theories, perspectives, and conceptions of communciation. Includes emphasis on clashes among current positions. Prereq: grad st.

770 Measurement and Evaluation in Speech Communication. 3 cr. G.
Consideration of problems and methods of formulating, constructing, and interpreting tests, measurements, and evaluation procedures related to speech communication. Prereq: grad st; Commun 700(P) or cons instr.

772 Rhetorical Leadership and Ethics. 3 cr. G.
The practice of responsible leadership from the humanities-based perspective of rhetoric. Prereq: grad st.

800 Proseminar: The Discipline of Communication. 3 cr. G.
The theoretical, conceptual, and pedagogical parameters of communication as a discipline. Prereq: grad st; admission to Commun M.A. Program or cons instr.

801 Seminar in Interpersonal Communication. 3 cr. G.
Overview of current perspectives and critical analysis of research in verbal and nonverbal aspects of interpersonal communication. Prereq: grad st.

802 Marital and Family Communication. 3 cr. G.
Examination of how communication functions to develop, maintain, enrich, or limit family relationships. Prereq: grad st.

803 Gender and Communication. 3 cr. G.
Seminar on interactive relationships between gender, communication, and culture; emphasis on the ways in which communication creates and perpetuates gendered identities and gendered interaction. Prereq: grad st.

810 Studies of Communication in Organizations. 3 cr. G.
Surveys theory and research on communication processes that constitute and maintain organizations. Topics include communication and networks, managerial hierarchy, power, and organizational culture. Prereq: grad st.

813 Seminar in Mediated Communication. 3 cr. G.
Advanced course focusing on theory and research pertaining to relationships between human communication processes and interactive technologies. Prereq: grad st.

823 Seminar in Small Group Communication. 3 cr. G.
Examination of theory and research in small group communication: methods, applications, and problems of small group communication. Prereq: grad st.

827 Seminar in Instructional Communication. 3 cr. G.
Theory and practice of teaching communication using face-to-face and online methods and in academic (college) and organizational (training) environments. Prereq: grad st.

835 Seminar in Contemporary Public Address. 3 cr. G.
Observation and analysis of verbal and nonverbal messages, forms, situations, strategies and media in contemporary public communication. Prereq: grad st.

850 Seminar in Intercultural Communication. 3 cr. G.
Examination of advanced theory and research in intercultural and international communication; methods and problems of intercultural communication research. Prereq: grad st.

860 Seminar: Issues in Communication: (Subtitled). 3 cr. G.
In-depth study and discussion of application of communication research and theory. Content varies. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

862 Public Deliberation. 3 cr. G.
Emerging literature on deliberative democracy; ethical, practical, and political possibilities for public argument and decision making. Prereq: grad st

864 Communication and Social Influence. 3 cr. G.
Advanced theory and experimental studies in persuasion. Prereq: grad st.

865 Theory and Practice of Mediation. 3 cr. G.
Course extends learning about mediator communication competence by exploring professional, ethical and theoretical issues in third party intervention. Students receive advanced mediation training and field experience. Prereq: grad st; Commun 665(P).

872 Rhetorics of Constituting Community and Social Controversy. 3 cr. G.
Advanced theories of promoting and disrupting identification or division and social conflict through rhetoric. Prereq: grad st.

873 The Digital Mirror. 3 cr. G.
Public messages about a wide range of technologies as purposeful statements about our identity as a technoculture and technocitizens. Prereq: grad st

882 The Rhetoric of Kenneth Burke. 3 cr. G.

Synthesis, analysis, and critique of Kenneth Burke's work on rhetoric and its influences. Prereq: grad st

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

893 Rhetoric of/and the Internet. 3 cr. G.
The concept of "The Internet" in popular culture; opportunities and obstacles the internet presents to rhetorical communication. Prereq: grad st

900 Philosophy and Practice of Communication. 3 cr. G.
Philosophical and theoretical perspectives on the scholarly study of human communication. Prereq: grad st

965 The Discourse of Conflict. 3 cr. G.
Conflict talk in various contexts; collection, analysis, and transcription of the discourse of conflict. Prereq: grad st; Commun 665(P), 765 (P), or 865(P)

972 Advanced Methods in Communication Research: 3 cr. G.
Multivariate statistical methods. Advanced and emerging new methodologies for communication research. Retakable w/chg in topic to 6 cr. Prereq: grad st; Commun 700(P), 701(P), 702(P), 770(P); or cons instr

990 Research and Thesis. 1-6 cr. G.
Production of a thesis under the supervision of student's major professor with consultation of the degree committee. Prereq: grad st & cons instr.

998 Communication Internship. 1-3 cr. G.
Student applies course work in profit or nonprofit setting; synthesizes course and work experience in graded paper. Retakable to 3 cr max. Prereq: grad st; 12 grad cr Commun or, for mediation interns, 6 grad cr from Mediation Cert course list; writ cons sponsoring agency or organization; cons supervising faculty member & Commun grad prog dir.

999 Independent Study. 1-3 cr. G.
Supervised investigation of a particular topic area either not covered by other communication courses or at a level of sophistication beyond that in other courses. Retakable to 3 cr max. Prereq: grad st; cons instr.

COMMUNICATION SCIENCES AND DISORDERS

- Phone: (414) 229-4263
- Fax: (414) 229-2620
- E-mail: jane@uwm.edu

School/College: College of Health Sciences

Degree Conferred:

- MS in Communication Sciences and Disorders

Overview

The Department of Communication Sciences and Disorders offers a program of graduate study which prepares students for careers as speech-language pathologists in public schools, hospitals, rehabilitation centers, nursing homes, and university training programs. The program typically takes 2 calendar years to complete. Students usually prepare for service delivery in both school and healthcare clinical settings to maximize career flexibility. Occasionally, students may choose to focus career preparation on just one type of setting.

Departmental laboratory and instructional facilities include a speech and language clinic, a hearing evaluation center, an instructional communication sciences laboratory, and faculty research laboratories. Research and instructional laboratories contain state-of-the-art technology, a variety of acoustic and physiological measurement systems including a swallow station, and augmentative and alternative communication (AAC) devices. Students typically participate in at least three semesters of on-campus clinic. Student participation in a research experience is required.

Following a minimum of two successful practicum experiences in the on-campus clinics, students are eligible for off-campus externships in medical, rehabilitation, school, and birth-to-three sites. A successful practicum experience is one in which a student earns a grade of B or better. Students placed in these facilities are required to pass a criminal background check prior to the externship placement, in accordance with Wisconsin State Statutes, Chapters 48 and 50.

The master's degree program in speech-language pathology (M.S. in Communication Sciences and Disorders) at the University of Wisconsin - Milwaukee is accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language-Hearing Association, 10801 Rockville Pike, Rockville, MD 20852, 301-897-5700.

The Wisconsin Department of Public Instruction (DPI) has also approved the undergraduate/graduate program in communication sciences and disorders. Students in the graduate program are advised individually to select academic coursework and clinical practica so that they may fulfill the standards of the credentials of their choice, including the state professional license issued by the Wisconsin Department of Regulation and Licensing (DRL), a state public schools license issued by the Wisconsin Department of Public Instruction (DPI), and the national professional Certificate of Clinical Competence in Speech-Language Pathology (CCC) issued by the American Speech-Language-Hearing Association (ASHA).

Graduate Faculty

Professors

Rhyner, Paula, Ph.D., Kent State University

Associate Professors

Gelfer, Marylou, Ph.D., University of Florida , Chair

Lund, Shelley, Ph.D., Pennsylvania State University

Seery, Carol, Ph.D., University of Washington

Assistant Professors

Bauer, Jay J., Ph.D., Northwestern University

Easterling, Caryn, Ph.D., University of Wisconsin-Madison

Lee, Soyoung (Sue Ann), Ph.D., University of Texas - Austin

Master of Science in Communication Sciences and Disorders

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

- Undergraduate major in communication sciences and disorders
- A cumulative overall grade point average of 3.0 or better (scale of 4.0).
- Minimum grade point average of 3.0 or better in the undergraduate major courses.
- Submission of three letters of recommendation from persons familiar with applicant's academic qualifications and achievements.
- Submission of Graduate Record Examination scores.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Students preparing for professional certification in speech-language pathology must also have transcript credit (which could include course work, advanced placement, CLEP, or examination of equivalency) for each of the following areas: biological sciences, physical sciences, social/behavioral sciences, and mathematics.

Major Professor as Advisor

The student must have a major professor to advise and supervise the graduate studies as specified in Graduate School regulations. Entering students are assigned advisors according to faculty advising loads.

Credits and Courses

Minimum degree requirement is 45 credits, 36 of which are core curriculum requirements and must be in Communication Sciences and Disorders 670, 688 (708), 690 OR 717, 701, 703, 704, 705, 706 OR 660, 709, 710, 711, 715 (680), 725, 785, and 790 (1 cr) OR 791. Two credits of electives are required from among 520, 579, 620, 630, 690 OR 717 (whichever was not taken to fulfill a core requirement), 702, 706 OR 660 (whichever was not taken to fulfill a core requirement), 728, 790 (credits beyond 1), 799, 802, or 804, for a total of 38 credits. The remaining credits will be taken in clinical practica.

The student, in consultation with the major advisor, plans the appropriate practicum courses for on-campus clinics and off-campus externships to meet ASHA certification, DPI and Wisconsin licensure requirements. Only clinical clock hours for practicum experiences in which the student has earned a grade of B or better will apply toward degree, certification, or licensure requirements.

Students who have fulfilled the program's student learning outcomes in U/G courses (for example, ComSDis 670 or 688) will be waived from taking these courses as part of their graduate program. However, students must still take a minimum of 36 graduate credits in academic coursework in order to meet ASHA requirements, and must have a minimum of 45 total graduate credits to complete degree requirements.

Thesis

Optional. A student may earn up to 6 credits for a thesis (ComSDis 790) if this option is selected. One of these credits will apply toward the core curriculum, two credits may apply toward the elective credit requirement, and the

rest may apply toward the total of 45 credits required for the degree.

Research Experience

Students who do not choose the thesis option are required to engage in a one-credit research experience(ComSDis 791). This experience may involve (but is not limited to) a small-scale original study, a project related to the on-going research of a faculty member, a clinical case study, or a literature review. Students may work individually or in groups. The final product can be either a research paper or a poster of the research findings, presented at a departmental research colloquium.

Knowledge and Skills Acquisition (KASA) Assessment

All students will be responsible for completion of the Knowledge and Skills Acquisition (KASA) assessment, which assesses student attainment of learning outcomes in a variety of content areas. Students who are judged by program faculty and staff to be deficient in one or more content areas will be required to take additional coursework or clinical practica until their deficiencies have been satisfied.

Completion of the degree program affords the necessary opportunities to meet licensure and certification requirements. However, it is still the student's responsibility to ensure that his or her individual course and practicum choices are consistent with the credentials he or she seeks to obtain, and that all competencies and standards have been met.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Certificate in Assistive Technology and Accessible Design

The Certificate in Assistive Technology and Accessible Design is an interdisciplinary program designed to meet the demand for assistive technology and accessible design specialists. The College of Health Science's Departments of Occupational Therapy and Communication Sciences Disorders along with the School of Education's Department of Exceptional Education collaborate on the course offerings and management. The certificate follows a model of prerequisite disability and technology basic knowledge, survey of the fields, assessment, intervention and leadership. Completion of the certificate will help prepare the students to sit for State and National certification examinations as Assistive Technology Specialists, Rehabilitation Engineering Technologist and Low Vision Specialist.

Application and Admission

Students interested in this certificate should contact one of the three sponsoring programs before enrolling in any certificate courses. Admission to the certificate requires evidence of a basic knowledge of disability and computer applications, and an undergraduate GPA of at least 2.75 or a graduate GPA of at least 3.0. Generally, students in the health sciences and exceptional education will have sufficient coursework in disability related studies. Prerequisite evidence in disability related studies may be obtained at the undergraduate level. One of the following is recommended to meet the computer applications requirement.

- ExEd 730 Assistive and Instructional Technology for Students with Disabilities, 3 cr
- OccThpy 750 Computer applications in Occupational Therapy practice, 3 cr

Those not already admitted to a UWM graduate degree program must complete a UW System online admission application and have an official undergraduate transcript sent to the Graduate School.

Credits and Courses

The certificate in Assistive Technology and Accessible Design requires completion of a minimum 15 credits as listed below.

Introduction (3 cr, must be taken at Graduate level)

- OccThpy 620 Introduction to Assistive and Rehabilitation Technology, 3 cr (Alternate related graduate level course can substitute if this course has been completed on an undergraduate level.)

Assessment (3 cr)

- ExcEduc 765 Assistive Technology Service Delivery in Schools, 3 cr
- ComSDis 715 Assessment and Intervention in Augmentative and Alternative Communication, 3 cr
- OccThpy 770 Assessment in Assistive Technology and Accessible Design, 3 cr

Intervention (6 cr - any U/G course must be taken at Graduate level)

- OccThpy 625 Design and Disability, 3 cr
- OccThpy 595 Vision I: Introduction to Low Vision and Vision Impairment, 3 cr
- OccThpy 596 Vision II: Practical Aspects of Visual Impairment & Low Vision Intervention, 3 cr
- OccThpy 593 Introduction to Biomedical and Rehabilitation Instrumentation, 3 cr
- OccThpy 999 Advanced Independent Study, 1-3 cr
- ExEd 735 Technology and Instruction for Students with Disabilities, 3 cr
- ExEd/OccThpy 777 Fieldwork in Assistive Technology, 3 cr
- ExEd 799 Independent Reading, 1-3 cr
- ComSDis 717 Special Populations in Communication Disorders, 2 cr
- ComSDis 791 Research Experience, 1 cr
- ComSDis 799 Independent Studies, 1-3 cr

Capstone (3 cr)

- OccThpy 760 Assistive and Rehabilitation Technology ***(online)***, 3 cr

Minimum Grade Requirement

To be awarded the certificate, students must earn a minimum grade of B in the certificate courses (B- not allowed).

Transfer Credit

Up to 3 credits of graduate coursework may be considered for transfer to the certificate program. To be eligible, courses must meet the requirements of the Graduate School, and be approved by the ATAD certificate coordinating committee.

Time Limit

Students must complete all certificate courses within 3 years of initial enrollment in the certificate program.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

510 Speech-Language Pathology Services in the Schools. 3 cr. U/G.
Study of the profession of speech-language pathology in the school environment, laws and regulations, m-team process, IEP development, current issues, practices, and programming. Prereq: sr st; cons instr.

520 Counseling in Communication Disorders. 3 cr. U/G.
Current theories in counseling and guidance, procedures designed specifically for use with the communicatively impaired. Opportunity for application of knowledge will be provided. Prereq: jr st; admis to major or cons instr.

579 Special Topics in Communication Sciences and Disorders: (Subtitled). 1-3 cr. U/G.
Specific topic and any additional prerequisites will be announced in the Schedule of Classes each time the course is offered. May be repeated with change in topic to max of 6 cr. Prereq: jr st.

580 Communication Problems of the Older Adult. 3 cr. U/G.
Study of the impairments to the communicative process caused by physiological, environmental, and social psychological changes which come with aging. Prereq: sr st; ComSDis 460 or cons instr.

620 Craniofacial Disorders. 2 cr. U/G.
Genetic, embryological, anatomical and physiological aspects of craniofacial disorders, including cleft lip and palate;

associated communicative disorders; diagnostic and therapeutic approaches for related speech-language problems. Prereq: ComSDis 350(P), 351(P), 480(P); cons instr.

630 Communication Disorders in Multicultural Populations. 2 cr. U/G.
Application of theoretical models and research perspectives to the assessment and treatment of communication disorders in children from multicultural populations. Prereq: sr st; cons instr.

634 Collaborative Consultation and Teaming-Serving Young Children with Disabilities. 3 cr. U/G.
Focus on development of collaboration and consultation skills for professionals employed in interdisciplinary and interagency settings. ExcEduc 634, Occthpy 634, & ComSDis 634 are jointly offered; they count as repeats of one another. Prereq: jr st.

640 (effective 01/26/2009) Clinical and Research Instrumentation in Communication Sciences & Disorders. 2 cr. U/G.
Hands-on laboratory experience with several clinically practical and non-invasive instrumentation systems for analyzing, monitoring, documenting normal as well as abnormal articulation, voice and prosody. Prereq: sr st; ComSDis 480(P); cons instr.

640 (590) Clinical Instrumentation for Speech-Language Pathologists. 3 cr. U/G.
Hands-on laboratory experience with several clinically practical and non-invasive instrumentation systems for analyzing, monitoring, documenting normal as well as abnormal articulation, voice and prosody. Prereq: sr st; ComSDis 480(P); cons instr.

650 Communication Assessment and Intervention for Persons with Disabilities. 3 cr. U/G.
Application of various theories and models of communication assessment and intervention for persons with severe/profound disabilities. Prereq: sr st; cons instr.

660 School-Age Language. 2 cr. U/G.
Language disorders in older children and adolescents; application of developmental theory to assessment and intervention. Prereq: sr st; cons instr.

670 (521) Advanced Procedures in Audiology. 3 cr. U/G.
Masking, speech audiometry, acoustic immittance testing, differential diagnosis, audiological screening design, development and implementation, special pediatric and geriatric concerns; audiologic counseling and hearing aid orientation. Prereq: sr st; ComSDis 470(P); cons instr.

688 (708) Evaluation and Diagnosis in Speech-Language Pathology. 2 cr. U/G.
The diagnostic process in speech-language assessment: case histories and interviewing, formal and informal assessment, interpretation of results, and report writing. Prereq: sr st; ComSDis 351(P); or cons instr.

690 Cognitive Communication Disorders in Adults. 2 cr. U/G.
Communication disorders related to traumatic brain injury and dementia in adults. Emphasis on neuropathology, symptomatology, assessment, and management. Prereq: sr st, ComSDis 460, and cons instr; or grad st.

701 Research Design and Methods in Communication Sciences and Disorders. 3 cr. G.
Introduction to strategy, design, and methodology in quantitative research; includes considerations in evaluating and understanding components of research articles, and integrating research into clinical practice. Prereq: grad st; cons instr.

702 Clinical Phonology and Articulation. 2 cr. G.
Normal and disordered aspects of articulation and phonology. Emphasis on theoretical and practical considerations for clinical assessment and treatment. Prereq: grad st; cons instr.

703 Voice Disorders. 2 cr. G.
Diagnosis and treatment of hyperfunctional disorders; psychogenic voice disorders; organic diseases, trauma, and congenital disorders of the larynx; resonance disorders; and alaryngeal speech. Prereq: grad st; cons instr.

704 Speech Fluency and Stuttering. 3 cr. G.
Theory and research related to the nature and treatment of stuttering. Discussion of factors important to the clinical management of fluency in children and adults. Prereq: grad st; cons instr.

705 Aphasia in Adults. 2 cr. G.
Nature of aphasia and related communication disorders. Study of pertinent diagnostic and prognostic techniques and therapeutic procedures. Prereq: grad st; cons instr.

706 Language Assessment and Intervention: Birth to 5 years. 2 cr. G.
Application of various theoretical models and research perspectives to the assessment and treatment of children with language impairments. Prereq: grad st; cons instr.

709 Evaluation and Management of Swallowing Disorders. 3 cr. G.
Study of normal and abnormal swallowing across the lifespan, with emphasis on etiologies, clinical and instrumental evaluation techniques, and management. Prereq: grad st; ComSDis 705(P); cons instr.

710 Motor Speech Disorders. 3 cr. G.
Basic neurological substrates of the dysarthrias and apraxia, differential diagnosis and treatment of acquired and developmental communication disorders associated with apraxia and dysarthria. Prereq: grad st; ComSDis 703(P) & 705(P).

711 (801) Applied Speech Science. 3 cr. G.
Advanced study of physiological, acoustical, and perceptual perspectives of normal and abnormal speech production mechanisms; laboratory experience with speech science instrumentation for research/clinical application. Counts as repeat of ComSDis 801. Prereq: grad st; cons instr.

715 (680) Assessment and Intervention in Augmentative and Alternative Communication. 3 cr. G.
Application of current research in augmentative and alternative communication (AAC) for assessment, prescription of AAC systems, and intervention planning for individuals with severe communication disorders. Prereq: grad st; cons instr.

717 Special Populations in Communication Disorders. 2 cr. G.
Seminar reviewing the current literature on selected populations of individuals with communication disorders and the implications of this literature on clinical practice. Prereq: grad st.

720 (902) Advanced Clinical Practice in Speech-Language Pathology: (Subtitled). 1-3 cr. G.
Supervised clinical practice with different speech and language problems in children and adults. Counts as a repeat of ComSDis 902. Retakable as necessary to fulfill competency requirements. Prereq: grad st; cons instr

725 Speech/Language Services in Educational and Medical Environments. 3 cr. G.
Methods and professional issues related to the speech-language pathologist employed in the educational and medical environments. Prereq: grad st, ComSDis 709(C), cons instr.

726 (903) Speech-Language Pathology Externship in Medical Environments. 4 cr. G.
Supervised clinical experience in medical and rehabilitation settings. Counts as a repeat of ComSDis 903. May be repeated to 8 cr max. Prereq: grad st; ComSDis 709(P); ComSDis 725(P); cons instr & grad advisor.

727 (905) Speech-Language Pathology Externship in Educational Environments. 4 cr. G.
Supervised clinical experience in educational environments. Counts as repeat of ComSDis 905. May be repeated to 8 cr max. Prereq: grad st; ComSDis 660(P) or 706(P); ComSDis 725(P); cons instr & grad advisor.

728 (908) Instrumentation Laboratory. 1 cr. G.
Hands-on experience with speech science instrumentation for analysis of voice, prosody, and resonance. Counts as repeat of ComSDis 908. Prereq: grad st; ComSDis 703(C) or cons instr.

770 (906) Clinical Practice in Audiologic Assessment. 3 cr. G.
Supervised clinical experience at the UWM Hearing Evaluation Center. Activities include audiologic assessment and (re)habilitation with children and adults (adult emphasis). Counts as repeat of ComSDis 906. Prereq: grad st; ComSDis 670(521); cons instr.

771 (907) Clinical Practice in Audiologic (Re)Habilitation: (Subtitled). 2-3 cr. G.
Supervised experience in audiologic (re)habilitation with pediatric or adult clients at on-campus or community sites. Counts as repeat of ComSDis 907. May be repeated to 4 cr max. Prereq: grad st; ComSDis 670(521) & 706 (for pediatric placements); cons instr.

785 Professional Development Portfolio. 1 cr. G.
Students are guided through the final process of designing a professional development portfolio. Prereq: grad st; cons instr.

790 Research and Thesis. 1-6 cr. G.
Independent research and writing under the supervision of a graduate faculty member. Prereq: grad st; cons instr.

791 Research Experience in Communication Sciences and Disorders. 1 cr. G.
Supervised research in communication sciences and disorders under the direction of an approved mentor. Prereq: grad st; cons instr.

799 Independent Studies. 1-3 cr. G.
Independent pursuit of a creative project designed by the student and supervised by a faculty or instructional academic staff member. Prereq: grad st; cons grad advisor.

802 Seminar in Applied Phonology: 1 cr. G.
Specific topic and any additional prerequisites announced in the Timetable each time the course is offered. May be repeated w/chg in topic to 7 cr max. Prereq: grad st; cons instr.

804 Seminar in Stuttering and Fluency: 1 cr. G.
Specific topic and any additional prerequisites announced in the Timetable each time the course is offered. May be repeated w/chg in topic to 7 cr max. Prereq: grad st; cons instr.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

CONSERVATION AND ENVIRONMENTAL SCIENCES

School/College: College of Letters and Science

No Degree Conferred: Courses Only

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

471 (Env Std 471) Principles of Natural Resources Management. 3 cr. U/G.
Environmental issues and problems from an interdisciplinary perspective; principles in the management and maintenance of natural resources. 3 hrs lec. Prereq: jr st; Bio Sci 310(P).

550 Introduction to Science Interpretation. 3 cr. U/G.
Concepts and practices of presenting science information for audience understanding of impact of science on daily life. Interpretation techniques for science content in nonformal settings. Prereq: jr st; CES 210(P) or cons instr.

551 Application of Science Interpretation. 3 cr. U/G.
Building upon CES 550, application of skills and knowledge to interdisciplinary environmental issues. Prereq: jr st; CES 550(P).

CRIMINAL JUSTICE

- Phone: (414) 229-2392
- Fax: (414) 229-5311
- E-mail: sgb@uwm.edu

School/College: Helen Bader School of Social Welfare

Degrees Conferred:

- MS in Criminal Justice

Overview

The School of Social Welfare offers a master's program of study in criminal justice. The program is designed to educate students for leadership positions in the field of criminal justice. The program also provides a strong foundation for students anticipating advanced study at the doctoral level. The curriculum is designed to give criminal justice professionals a broad foundation for understanding criminal justice policy. Legal, organizational, political and behavioral frameworks are used to analyze the operation of the criminal justice system. Students are introduced to advanced knowledge on the nature and causes of crime, the justification and means of social control, the administration of the justice system, and the evaluation of criminal justice programs.

In addition to the general master's program in criminal justice, concentrations in corrections, law enforcement, and administration are also available. The corrections concentration is designed to prepare individuals to assume administrative/management positions in correctional settings. The law enforcement concentration is designed to prepare individuals to assume administrative/management positions in law enforcement settings.The administration concentration combines coursework in public administration and criminal justice to prepare students for administrative positions within the criminal justice system, focusing on management careers in police, courts, and corrections.

Graduate Faculty

Professor

Pope, Carl E., Ph.D., State University of New York-Albany
Stojkovic, Stan, Ph.D., Michigan State University

Associate Professors

Brandl, Steven G., Ph.D., Michigan State University, Chair
Lovell, Rick D., Ph.D., Michigan State University
Pelfrey, William V., Ph.D., Temple University

Assistant Professors

Freiburger, Tina L., Ph.D., Indiana University of Pennsylvania
Hassell, Kimberly D., Ph.D., University of Nebraska-Omaha
LeBel, Thomas P., Ph.D. University at Albany, State University of New York

Master of Science in Criminal Justice

Admission

An applicant must meet Graduate School requirements plus these program requirements to be considered for admission:

- Undergraduate background in criminal justice, a related social science or other relevant educational experience.
- Submission of scores from the verbal and quantitative sections of the Graduate Record Examination or the Miller Analogies Test.
- Three letters of recommendation from persons who are familiar with the applicant's academic and/or employment record.
- Satisfactory completion of an introductory criminal justice course, a research methods course, and a statistics course.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Application

Application must be made to the Graduate School. Applicants are admitted to the program at the beginning of the fall, spring and summer sessions. For further information regarding the application process, please contact the Project Assistant of the Criminal Justice Programs at (414) 229-2392.

Major Professor as Advisor

The student must have a faculty advisor to advise and supervise the student's studies as specified in Graduate School regulations. At the time of admission, the Director of the Criminal Justice Programs will assign each student to a faculty advisor. Students who begin to work closely with a particular faculty member with expertise in their area of interest may request that this faculty member serve as their advisor. Students who pursue the Essay Option must choose a faculty member to serve as their major professor.

Credits and Courses

The Master of Science in Criminal Justice consists of a minimum of 33 graduate credits; 21 credit hours must be taken within the criminal justice program and the other 12 credit hours may be taken elsewhere in the School of Social Welfare or in other departments in the University with the consent of the student's advisor. Each student is required to take the Proseminar in each of three core areas (total of 9 credit hours) and pursue either Option A: Essay Option, or Option B: Non-Essay Option described below. The three core areas are:

- The Social Context of Crime and the Criminal Justice System
- Program Administration in Criminal Justice
- Programmatic Research in Criminal Justice

Option A: Essay Option

Students must complete the required proseminars and, as part of the 33 graduate credits required, must complete 3 credits of research and a graduate-level statistics course approved by the student's faculty advisor. Students planning to go into doctoral programs are strongly encouraged to pursue the essay option.

Essay

An acceptable essay must be written on the student's area of concentration.

Comprehensive Examination

The student must pass a final oral examination in defense of the essay.

Option B: Non-Essay Option

Students must complete the 33 graduate credits required, including the three proseminars. Essay not required.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Concentrations

The following concentrations are offered: law enforcement, corrections, and administration. Students also may create their own concentration by choosing electives in an area of interest in consultation with their faculty advisor, or they may choose not to select a concentration.

No Concentration or Self-Created Concentration

A minimum of 33 credits including:

- 9 credits of required criminal justice proseminars (743, 756, 773)
- 12 credits of credits justice electives
- 12 credits of criminal justice or other social science electives.

Law Enforcement Concentration in Criminal Justice

All of the requirements noted above with regard to admission, application, major professor as advisor, essay/non-essay options, comprehensive examination and time limit apply to the law enforcement concentration. In addition, the following credits and courses must be completed.

A minimum of 33 credits including:

- 9 credits of required criminal justice proseminars (743, 756, 773).
- 9 credits of law enforcement sequence in criminal justice (795, 810, 820).
- 15 credits of criminal justice or social science elective courses (may include 990, Thesis or Research Project).

Corrections Concentration in Criminal Justice

All of the requirements noted above with regard to admission, application, major professor as advisor, essay/non-essay options, comprehensive examination and time limit apply to the corrections concentration. In addition, the following credits and courses must be completed.

A minimum of 33 credits including:

- 9 credits of required criminal justice proseminars (743, 756, 773).
- 9 credits of corrections sequence in Criminal Justice (800, 805, 830)
- 15 credits of criminal justice or social science elective courses (may include 990, Thesis or Research Project).

Administration Concentration in Criminal Justice

This concentration combines criminal justice approaches with those of public administration in studying criminal justice organizations. It is designed to meet the needs of students who intend to enter administrative and management positions within the criminal justice system.

All of the requirements noted above with regard to admission, application, major professor as advisor, essay/non-essay options, comprehensive examination and time limit apply to the administration concentration. In addition, the following credits and courses must be completed.

Minimum degree requirement is 33 graduate credits distributed as follows:

- 9 credits of required criminal justice proseminars (743, 756, 773)
- 12 credit of administration concentration (Pol Sci 452, 763, 789 and 958)
- 12 credits of criminal justice electives (may include 990, Thesis or Research Project).

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

497 Study Abroad: (Subtitled). 1-6 cr. U/G.
Variable content (subtitle is area of concentration). Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared program course work. Retakeable with change in topic to max of 9 cr. Prereq: jr st; acceptance for Study Abroad Prog.

668 Conceptual Foundations of Law, Order, and Justice. 3 cr. U/G.
Analysis of major concepts of law, order, and justice from ancient to modern times to help determine rationales for existence of a criminal justice system. Prereq: jr st or cons instr; Crm Jst 110(P).

671 Juvenile Justice. 3 cr. U/G.
Structure of juvenile justice system -- police, courts, and corrections; analysis of structure of subsystems of the juvenile justice process; introduction to literature and research. Prereq: jr st or cons instr; Crm Jst 110(P).

674 History of Criminal Justice. 3 cr. U/G.
Historical study of societal response to crime/disorder. Critical review of historical research on police, courts, prisons, criminal law, juvenile justice, and social disorder. Prereq: jr st, Crm Jst 110(P).

680 Jails. 3 cr. U/G.
The primary purpose is to develop a comprehensive understanding of the role of the jail in contemporary society. Prereq: jr st; Crm Jst 110 (P) & 150(P).

740 Criminal Justice Policy. 3 cr. G.
A study of the process by which policy decisions are selected and developed in political environments for implementation in the criminal justice system. Prereq: grad st.

743 Proseminar: Administration of Criminal Justice Systems. 3 cr. G.
An examination of criminal justice organizations from a public administration focus, integrating organizational theory and political theory for the analysis of criminal justice administration. Prereq: grad st.

756 Proseminar: Analysis of Criminal Justice Research. 3 cr. G.
A study of the application of social science research methods to criminal justice issues. Prereq: grad st.

773 Perspectives on Crime and the Criminal Justice System. 2-3 cr. G.
An in-depth analysis of the etiology of criminal behavior; processes of becoming a criminal; patterns of criminal behavior; and policy and individual consequences of decriminalization. Not open to students who have cr in Soc Wrk 773, which is identical to Crm Jst 773. Prereq: grad st.

775 Race, Crime and Criminal Justice. 3 cr. G.
A study of crime and criminal justice issues as they impact major racial groups such as Blacks, American Indians, and Hispanics Prereq: grad st.

793 Issues in Correctional Practice and Policy. 3 cr. G.
An examination of the operational, legal, and philosophical issues concerning sentencing, institutional corrections, probation and parole, and newer forms of community corrections. Prereq: grad st.

795 Issues in Law Enforcement Practice and Policy. 3 cr. G.
An examination of police practice in a democratic society from an operational, legal, and sociological perspective Prereq: grad st.

800 Issues in the Application of Correctional Philosophy. 3 cr. G.
An examination of historical and contemporary philosphy, issues and applications of criminal justice and social work professions in correctional treatment and practice Prereq: grad st.

805 Correctional Administration and Programming. 3 cr. G.
An examination of administrative and programmatic issues facing adult corrections, including institutional corrections, probation, parole, and community - based corrections Prereq: grad st.

810 Police Administration. 3 cr. G.
An application of management principles to the police organization. Prereq: grad st.

820 Police and the Multicultural Community. 3 cr. G.
A study of the critical issues facing police officers and administrators in relation to policing a diverse society, with particular emphasis on training leadership, minorities and women police officers, and police - community relations. Prereq: grad st.

830 Intervention Strategies for Correctional Clients. 3 cr. G.
A review and analysis of intervention approaches and programs used with correctional clients, both juvenile and adult, with emphasis on diversion, prevention, and rehabilitation strategies. Prereq: grad st.

840 Philosophical Foundations of Policing. 3 cr. G.
An in-depth analysis of the social theory of policing. The most significant theoretical and empirical works on policing are examined. Prereq: grad st

970 Readings in Criminal Justice Research: (Subtitled). 3 cr. G.
Variable content research oriented course involving systematic analysis and investigation of criminal justice topics. May be retaken to max of 9 cr. Prereq: grad st; cons instr.

990 Thesis or Research Project. 1-3 cr. G.
- May be repeated once for cr. Prereq: grad st; writ cons instr & coord grad prog.

999 Independent Reading in Criminal Justice. 1-3 cr. G.
Work suited to individual graduate students arranged. Prereq: grad st;cons instr & coord Grad Prog.

CULTURAL FOUNDATIONS OF EDUCATION

- Phone: (414) 229-4323
- Fax: (414) 229-3700
- E-mail: soedean@uwm.edu

School/College: School of Education

Degree Conferred:

- MS in Cultural Foundations of Education

Overview

The Department of Educational Policy and Community Studies offers a master's program for educators who wish to deepen their knowledge base in dealing with urban issues of educational policy and practice. The graduate study enhances participants' ability to analyze education in societal and community contexts as well as to analyze conflicting assumptions underlying crucial issues.

A core of four courses provides sociological, historical, philosophical and research frames of reference. Students select Educational Foundations or Multicultural Education as an area of concentration, although probing the complexities and issues of cultural diversity is a goal of each area.

Students are encouraged to develop and understand their own frameworks of values and theoretical perspectives as applied to the realities of urban education. A faculty advisor will assist the student through the program, balancing flexibility and structure according to professional needs.

Graduate Faculty

Professor

Epps, Edgar, Ph.D., Washington State University

Associate Professors

Bonds, Michael, Ph.D., University of Wisconsin - Milwaukee

Kailin, Julie, Ph.D., University of Wisconsin-Madison

Schutz, Aaron, Ph.D., University of Michigan

Swaminathan, Raji, Ph.D., Syracuse University

Tapia, Javier, Ph.D., Arizona State University

Assistant Professors

Farmer-Hinton, Raquel, Ph.D., University of Illinois-Urbana/Champaign

Williams, Gary L., Ph.D., University of Wisconsin-Milwaukee

Master of Science in Cultural Foundations of Education

Admission

An applicant must meet Graduate School requirements plus the following departmental requirements to be considered for admission to the program:

- Submission of two letters of recommendation from individuals who can testify to the applicant's academic potential.
- Written statement of educational and professional goals with desired area of concentration.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at time of admission should immediately contact the Department Chair.

Credits and Courses

The program in Cultural Foundations of Education requires a minimum of 30 graduate credits, divided among the following: required core courses (12); focus work (minimum 9 graduate credits) and electives. A minimum of 6 credits beyond the four core courses needs to be in graduate courses, 700 level and above.

Core Courses

The required core for all students consists of the following 12 credits: EdPol 705 Sociology of Education (3), EdPol 710 Research Methods in Cultural Foundation (3), EdPol 740 Modern Philosophies of Education (3), and EdPol 750 History of American Education (3). Each of these required courses has a set of major questions that guide the instructor and the students.

Focus Work in Cultural Foundations

In addition to the core courses, Cultural Foundations majors must complete a minimum of 9 credits in the Department of Educational Policy and Community Studies that may be focused in the following areas: alternative education, multicultural education, peace education, urban education, and educational policy. They will select this focus with the help of an advisor.

Electives

In order to individualize the program, a maximum of 9 graduate credits of electives is selected with the advisor to enhance the specific professional goals of the student. These credits may be selected from courses within the Department, courses in other departments in the School of Education, or courses outside of the School of Education. A maximum of 3 credits of Independent Reading and 3 credits of fieldwork may be included in the program.

Paper or Thesis

All students in the Cultural Foundations of Education program must complete either a paper or a thesis in addition to an exit interview as part of their degree requirements. The selection of either the thesis or the paper should be made by the student in consultation with his/her advisor.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

401 (503) Foundations of Community-Based Organizations. 3 cr. U/G.
Overview of community based organizations, their structures, functions, & administration. Students will also be taught proposal writing skills. Prereq: jr st or cons instr.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st, cons instr, acceptance for Study Abroad Prog.

500 Sociology and Policy of Urban Communities and Schools. 3 cr. U/G.
Selected contemporary social issues analyzed for their bearing on urban communities and schools. Prereq: jr st.

501 Seminar in Philosophy of Community Change. 3 cr. U/G.
Advanced study of significant philosophers of change and critical evaluation of the role of personal values in social change efforts. Prereq: jr st or cons instr.

506 Research Techniques for Community Organizers and Community Educators. 3 cr. U/G.
Introduction to basic research techniques and the specific skills needed for the community organizer and/or educator. Prereq: jr st.

507 Action Research on Milwaukee Institutions. 3 cr. U/G.
Examination and analysis of the organization, philosophy, and history of specific Milwaukee institutions. Emphasis placed on how these institutions affect the lives of community residents and appropriate alternatives to current arrangements. Prereq: jr st or cons instr.

508 Problems of Change in Community-Based Organizations. 3 cr. U/G.
Advanced training in community organizing with reflective paper. Prereq: Ed Pol 111(P) & cons instr.

510 Foundations of Human Relations in Community-Based Organizations. 3 cr. U/G.
Analysis of selected concepts and resources bearing on human relations training. Various approaches, e.g., Harvard case studies, to human relations will be evaluated. Prereq: jr st.

512 Context and Foundations of Educational Policy. 3 cr. U/G.
Defines educational policy, studies philosophical, historical, and social contexts of educational policy, examines context of educational policy, and presents contemporary educational concerns. Prereq: jr st.

520 Peace Education. 3 cr. U/G.
Discusses how education and community education can address the threats of violence and prepares students to teach about peace, nonviolence, and conflict resolution. Prereq: jr st or cons instr. Minimum of 9 hrs Soc Sci division course work.

521 Nonviolence in Education. 3 cr. U/G.
An overview of different theories of nonviolence and an examination of their applications in educational setting. Prereq: jr st; Ed Pol 520(R); Psych 201(R) or cons instr.

522 Abusive Relationships: Community Problems, Community Solutions. 3 cr. U/G.
The origins of relationship abuse, the legal aspects of domestic violence, and the healing process for people hurting in relationships. Prereq: jr st; Ed Pol 520(P) or cons instr.

530 Urban Education: Foundations. 3 cr. U/G.
Application of basic social science concepts to study of education in the urban setting. Prereq; jr st.

531 Alternative Schools. 3 cr. U/G.
Examine the alternative schools movement. Counts as repeat of Ed Pol 330. Prereq: jr st.

532 Male Identity: Education and Development. 3 cr. U/G.
Contribution of schools in forming male identity. Changing expectations of men in work, the family and society. Prereq: jr st.

533 Educating Black Males-Theories, Methods and Strategies. 3 cr. U/G.
This course will develop skills and strategies to affect changes in the lives of black males in the school system, k through 12 grade. Prereq: jr st; Ed Pol 112 or 375 or equiv or teacher certification.

534 The Student at Risk (Causes). 3 cr. U/G.
Helps teachers to identify and understand the personal, social, cultural and community contexts which contribute to the at-risk status of public school students. Prereq: jr st.

535 Educating At-Risk Students. 3 cr. U/G.
Development of skills and techniques to enable teachers to be instructionally effective with at-risk students. Prereq: jr st; Ed Pol 534(P).

541 Wisconsin Juvenile Justice System and the Law for School Personnel. 1 cr. U/G.
Provides students and school personnel with knowledge of Wisconsin juvenile justice system, and legal responsibilities of all school personnel, emphasizing current code. Prereq: jr st.

545 Philosophical Foundations of Counseling. 3 cr. U/G.
Examination of basic issues and schools of thought in counseling for underlying assumptions, presuppositions, philosophical dilemmas, and unexamined trends. Prereq: one counseling course or cons instr.

550 Comparative Education. 3 cr. U/G.
Survey of foreign school systems with attention to cultural setting and major purposes. Prereq: jr st.

560 Education and Hispanics. 3 cr. U/G.
Examination of the educational experiences of Hispanics in schools in the USA. Prereq: jr st.

561 Education Issues in American Indian Communities. 3 cr. U/G.
Unique political-legal, social-cultural contexts of Native Education, intergovernmental involvement and role in addressing social/cultural and developmental needs of tribal societies. Prereq: jr st or const instr.

579 Current Topics in Cultural Foundations of Education: (Subtitled). 1-6 cr. U/G.
Specific topics and any additional prerequisites will be announced in the Schedule of Classes each time the course is offered. Retakeable with change in topic to max of 9 cr, including cr earned under Ed Pol 779. Prereq: jr st.

580 An Overview of Child/Youth Care. 3 cr. U/G.
Survey of skills, theories and approaches of the youth work field. Emphasis on interactive, developmental and relationship-building approaches in a variety of settings. Ed Pol/ExcEduc/Soc Wrk 580 are jointly offered & count as repeats of each other. Prereq: jr st or cons instr.

581 Youth Work Practice. 3 cr. U/G.
Applies the skills, theories and approaches of the youth work field to settings such as schools, community centers, and residential programs. Ed Pol/ExcEduc/Soc Wrk 581 are jointly offered & count as repeats of each other. Prereq: jr st; Ed Pol/ExcEduc/Soc Wrk 580(P); or grad st or cons instr.

582 Operations Management in Early Childhood Programs. 3 cr. U/G.
An introduction to systems and operations theory. Students explore and apply management concepts, systems, policies, and procedures to improve the quality of programs and services. Jointly offered with & counts as repeat of Ad Ldsp 582. Prereq: jr st; Ad Ldsp 581(P); or cons instr.

584 Early Childhood Programs and the External Environment. 3 cr. U/G.
Examines external influences that impact daycare. Students explore issues of culture, community, diversity, and policy as well as technical issues related to program quality. Prereq: jr st & Ad Ldsp 581(P); or cons instr.

585 Supervised Practicum in Child and Youth Care. 2-4 cr. U/G.
Supervised practicum in residential agencies and settings which utilize child and youth care workers and serve behaviorally, cognitively and/or physically disabled youth. Ed Pol/ExcEduc 585 are jointly offered & count as repeats of each other. Prereq: jr st; Ed Pol/ExcEduc/Soc Wrk 580(P), or grad st; cons instr.

610 Reproduction of Minority Communities. 3 cr. U/G.
Analysis of the social, economic, and cultural forces behind the formation and reproduction of minority and disadvantaged communities in the United States. Jointly offered w/& counts as repeat of Sociol 610. Prereq: jr st; any Sociol 100-level course.

620 (720) History of the Education of African Americans. 3 cr. U/G.
Study of the history, biographies, trends, cultural influences, and movements in the education of African Americans: Africa to slavery to the present. Comparison with 'white education.' Prereq: jr st.

621 History of Native Education and Policy Development. 3 cr. U/G.
Historic policy development affecting the education of American Indians including the development of schools and the relationship of education to federal Indian policy. Prereq: jr st or cons instr.

625 Race Relations in Education. 3 cr. U/G.
Study and analysis of historical and theoretical bases of racism/race relations in america and their influences on contemporary educational policies and practices. Prereq: jr st.

630 Race and Public Policy in Urban America. 3 cr. U/G.
Examination of the relationship between race and public policy with emphasis on issues (housing, crime, welfare reform, poverty, employment, discrimination, etc.) impacting urban communities. Prereq: jr st or cons instr.

660 History of Western Education. 3 cr. U/G.
Chronological narrative examining educational systems in western countries through the development of various civilizations from ancient Egypt to Europe. Prereq: jr st.

688 Fieldwork in Multicultural Education. 1-6 cr. U/G.

Fieldwork in multicultural settings appropriate for cultural research, analysis and study. Individualized requirements and evaluation criteria to be determined by faculty on individualized bases. May be retaken to 6 cr max. Prereq: jr st; cons instr.

698 Fieldwork in International Education. 1-6 cr. U/G.
Fieldwork in intercultural settings appropriate for cultural research, analysis and study. Requirements and evaluation criteria to be determined by faculty on individualized basis. Retakable to 6 cr max. Prereq: jr st; cons instr.

705 Sociology of Education. 3 cr. G.
Focus on educational institutions as social systems within community and societal contexts; dimensions of race/ethnicity, socioeconomic class and gender. Prereq: grad st.

710 Research Methods in Cultural Foundations. 3 cr. G.
Critical examination of historical, philosophical, sociological and comparative research methods and strategies and their implications for educational decision making. Prereq: grad st.

712 Community Education and Action. 3 cr. G.
History of community changes and community education in America; key contemporary examples of community education, school-community relations, and community organizing. Prereq: grad st.

740 Modern Philosophies of Education. 3 cr. G.
Analysis of competing assumptions about the aims and means of contemporary education; exploration of beliefs about values and knowledge within cultural contexts. Prereq: grad st.

750 History of American Education. 3 cr. G.
Study of consensus and conflict in the ideas and issues shaping education in the changing u.s. society; includes an emphasis on the education of immigrants, minorities and women in and outside of mainstream society. Prereq: grad st.

779 Current Topics in Cultural Foundations of Education: (Subtitled). 1-3 cr. G.
Variable content course. Specific topic announced in schedule of classes. May be retaken with change in topic to max of 9 cr. Prereq: grad st.

799 Independent Reading. 1-3 cr. G.
For benefit of grad students unable to secure needed content in regular courses. Prereq: grad st; cons instr.

801 (831) Seminar in Social Foundations of Education. 3 cr. G.
Intensive examination of the cultural dimensions of education from philosophical, historical and sociological perspectives; emphasis on current interdisciplinary literature concerning cultural diversity. Specific cultural focus may vary. Prereq: Ed Pol 705(P) or 740(P) or 750(P) or cons instr.

805 Sociology of Education: Seminar. 3 cr. G.
Evaluation of theory, scholarly research, and issues in the sociology of education, with emphasis on empirical studies of social stratification and social mobility. Prereq: Doctoral st or cons instr.

822 Global Educational Studies. 3 cr. G.
Study of worldwide growth in learning needs and how to meet them; inequalities between and within countries; and proposed reforms, innovations and technologies. Prereq: grad st.

823 Multicultural Education. 3 cr. G.
Study of cultural diversity and its relationship to educational theory and practice. Emphasis upon developing and analyzing programs with a multicultural emphasis. Prereq: grad st; Ed Pol 705(P) or 750(P) or cons instr.

830 A Study of Educational Classics. 3 cr. G.
Reading and discussion of educational classics. Prereq: grad st; Ed Pol 740 or 750 or cons instr.

833 Seminar in Multicultural Education. 3 cr. G.
Emphasis upon devising an individually defined study of a specific educational issue or practice to encourage development of multicultural education. Prereq: grad st; Ed Pol 688(P) or 823(P) or cons instr.

840 Seminar in Educational Theory. 3 cr. G.
Examination of prominent theories of education and society and application to current educational issues and contexts. Prereq: Doctoral st or cons instr.

850 Seminar in History of American Education. 3 cr. G.
Historical background of contemporary debates and controversies in American education. Prereq: Doctoral st or cons instr.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

897 Seminar in the Philosophy and History of Adult Education. 3 cr. G.
Philosophical foundations related to the historical movement of adult education and implications for future directions. Prereq: grad st; Ad Ldsp 657 or cons instr.

990 Research or Thesis. 1-3 cr. G.
- Prereq: grad st.

999 Independent Reading. 1-3 cr. G.
Variable content course. Retakeable to max of 9 cr. Prereq: master's degree.

CURRICULUM AND INSTRUCTION

- Phone: (414) 229-2524
- Fax: (414) 229-5571
- E-mail: lpost@uwm.edu

School/College: School of Education

Degrees Conferred:

- MS in Curriculum and Instruction

Overview

The Department of Curriculum and Instruction offers a graduate program of study in curriculum and instruction, including choices of concentration in three Focus Areas: Subject Area, Instructional Level Area and Cross-Curricular Area.

The Department also cooperates with the Department of Administrative Leadership in the Specialist Certificate Program with an emphasis in reading.

Under the auspices of the PhD program in Urban Education, the Department offers doctoral level training with a designated specialization in Curriculum and Instruction.

Opportunities for study abroad are available each year, usually during the summer session. Recent study programs have been held in China, West Germany, England, Denmark, Poland, Mexico, and Australia. For information, contact the Education Outreach Office, Room 579, Enderis Hall.

Graduate courses in the Department of Curriculum and Instruction are available under two curricular areas: Curriculum and Instruction and Physical Education.

Graduate Faculty

Professors

Huinker, DeAnn M., Ed.D., University of Michigan
Kepner, Henry, Ph.D., University of Iowa
Pugach, Marleen C., Ph.D., University of Illinois
Ryder, Randall, Ph.D., University of Minnesota

Associate Professors

Antrop-Gonzalez, Rene, Ph.D., University of Wisconsin-Madison
Berg, Craig, Ph.D., University of Iowa
Chapman, Thandeka, Ph.D., University of Wisconsin-Madison
File, Nancy, Ph.D., Purdue University
Longwell-Grice, Hope, Ph.D., University of Delaware
Mertzman, Tania, Ph.D., University of South Florida
Pasternak, Donna, Ph.D., New York University
Posnanski, Tracy, Ph.D., University of Wisconsin-Milwaukee
Post, Linda, Ph.D., Syracuse University, Chair
Pucci, Sandra, Ph.D., University of Southern California
Saffold, Felicia, Ed.D., Cardinal Stritch University
Short, Ruth, Ed.D., University of Minnesota
Smith, Cyrus, Ed.D., Indiana University

Assistant Professors

Bales, Barbara, Ph.D., Pennsylvania State University
Kelly, Karen, Ph.D., University of South Florida
Mueller, Jennifer, Ph.D., University of Michigan
Oxford, Raquel, Ph.D., University of North Texas
Wisneski, Debora, Ph.D., University of Texas-Austin

Master of Science in Curriculum and Instruction

Admission

An applicant must meet Graduate School requirements to be considered for admission to the program.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

An applicant lacking the required grade point average (2.75 on a 4.00 scale) may be considered for admission on probation.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at time of admission should immediately contact the Department Chair. Students w ho have not completed a Proposed Program of Study Form with their advisor, and filed it with the Department by the end of the semester in which they are admitted, will not be allowed to register for the next term.

Students may elect either of two alternatives: Plan A or Plan B.

Plan A

Credits and Courses

The student is required to take 12 credits in Curriculum and Instruction core areas, 18 credits in a focus area, and 3 credits in the Master's Seminar in Curriculum and Instruction.

Curriculum and Instruction Core Area

- **705** Curriculum and Instruction as a Field of Inquiry
- **701** Curriculum Planning (Curriculum)
- **714** Analysis of Instruction (Instruction)
- **716** Urban Education: Teaching (Urban Education)

Other courses used to fulfill this requirement must be approved by the student's advisor.

Focus Areas

In consultation with an advisor, the student develops a focus area. Three focus areas are currently offered:

1. **Subject Area:** Examples are science education, mathematics education, social studies education, reading education.
2. **Instructional Level Area:** Examples are early childhood education, elementary education, junior high/middle level education, secondary education.
3. **Cross-Curricular Area:** Examples are urban teaching, curriculum planning, instruction improvement, reading K-12.

Students may take coursework in the Department of Curriculum and Instruction, other departments in the School of Education, and other departments and schools of the University. Students in subject or instructional level focus areas may elect coursework in their particular academic disciplines. However, at least 18 of each student's credits must be taken in Department of Curriculum and Instruction courses.

Minimum degree requirement is 33 credits including 12 credits in curriculum and instruction core areas: 18 credits in a focus area approved by the student's advisor, and completion of Curriculum and Instruction 800 (Master's Seminar in Curriculum and Inst ruction), 3 credits.

Thesis

None required.

Comprehensive Examination

Neither a final written nor oral comprehensive examination is required. Students demonstrate their proficiency through satisfactory completion of the Master's Seminar in Curriculum and Instruction.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Plan B

Credits and Courses

The student is required to take 12 credits in Curriculum and Instruction core areas, 15 or 18 credits in a focus area, and 3 or 6 credits of research or thesis, for a total of 33 credits.

Curriculum and Instruction Core Area. The core areas are curriculum, instruction, and urban education. The introductory course to the core area is: 705 Curriculum and Instruction as a Field of Inquiry. Additional core courses are:

- **701** Curriculum Planning (Curriculum)
- **714** Analysis of Instruction (Instruction)
- **716** Urban Education: Teaching (Urban Education)
- Other courses used to fulfill this requirement must be approved by the student's advisor.

Focus Areas

In consultation with an advisor, the student develops a focus area. Three focus areas are currently offered:

- **Subject Area:** Examples are science education, mathematics education, social studies education, reading education.
- **Instructional Level Area:** Examples are early childhood education, elementary education, junior high/middle level education, secondary education.
- **Cross-Curricular Area:** Examples are urban teaching, curriculum planning, instruction improvement, reading K-12.

Students may take coursework in the Department of Curriculum and Instruction, other departments in the School of Education, and other departments and schools of the University. Students in subject or instructional level focus areas may elect coursework in their particular academic disciplines. However, at least 18 of each student's credits must be taken in Department of Curriculum and Instruction courses.

Minimum degree requirement is 33 credits including 12 credits in curriculum and instruction core areas, 15 or 18 credits in a focus area approved by the student's advisor, and completion of a master's paper or thesis (890 Research or Thesis), 3 or 6 credits.

Thesis

A thesis or master's paper is required.

Comprehensive Examination

Neither a final written nor oral comprehensive examination is required. Students demonstrate proficiency by satisfactorily completing a master's paper or thesis and defending it before a quorum of the Graduate Committee of the Department.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Teacher Certification

Graduate students seeking initial teacher certification or added certification can arrange their master's program so that a portion of their credits earned toward a master's degree can also serve as partial fulfillment of Certification requirements. The students must also make separate application for admission to the certification program through the certification office in the School of Education, Enderis Hall, Room 220. Please note: Degree and certification requirements may differ. The following certification programs are available:

- Bilingual Education
- Early Childhood Education (Pre-K through 3)
- Elementary Education (1-6; 1-9)
- English as a Second Language
- Secondary Education (6-12)
- Reading Teacher K-6
- Reading Specialist

Information about the specific subject areas for certification programs listed above may be obtained from the UWM Undergraduate Bulletin, the Certification Office (Enderis Hall, Room 220) or the Department of Curriculum and Instruction (Enderis Hall, Room 310).

Certification Programs in Reading

Reading Teacher K-12

Requirements for a Wisconsin Reading Teacher license:

1. Bachelor's degree in Education or a related area with a 2.75 cumulative GPA on a 4.0 scale.
2. Eligibility to hold a Wisconsin license to teach or completion of an approved teacher education program.
3. Two years of successful regular classroom teaching experience.
4. Portfolio showing proficiency in the teaching of reading according to Wisconsin Department of Public Instruction PI 34.33 (6).
5. 24 semester credits in the teaching of reading that includes a practicum. A maximum of 12 undergraduate credits with a minimum grade of B in each class taken within the last 7 years, determined by the Reading Program Chairperson, may be applied towards fulfillment of certification requirements. Satisfactory completion of courses identified to meet Wisconsin administrative Code Chapter PI 34.33 (6) with a cumulative GPA of 3.0.

Required Courses or Equivalents:

1. CurrIns 747 Assessment and Instruction of Reading Difficulties with Practicum, K-12: Part 1 **or** CurrIns 647 Early Reading Empowerment, Part 1.
2. CurrIns 748 Assessment and Instruction of Reading Difficulties with Practicum, K-12: Part 2 **or** CurrIns 648 Early Reading Empowerment, Part 2.
3. CurrIns 846 Seminar in Developmental Reading: (subtitle) **or** CurrIns 646: UW Reading Research Symposium.
4. CurrIns 545 Reading in the Content Areas.
5. Choose one course below:
   - CurrIns 504 Reading and Writing in the Primary Grades
   - CurrIns 544 Improving the Teaching of Reading
   - CurrIns 552 (formerly 506) Teaching Reading, Grades 1-3
   - CurrIns 554 (formerly 507) Teaching Reading and Children's Literature, Grades 4-8
6. Choose one course below:
   - CurrIns 501 Developing Language and Cognitive Skills in Early Childhood Education (3)
   - CurrIns 508 Language and Urban Schooling (3)
   - CurrIns 541 Principles and Methods of Teaching English as a Second Language: K-12 (3)
   - CurrIns 543 Developing Literacy Skills in the Bilingual Classroom (3)
   - CurrIns 655 Applied Linguistics for Teachers (3)
7. Choose one course below:
   - ExcEduc 300 The Exceptional Individual (3)
   - ExcEduc 531 Mainstreaming: Integrating Student with Exc Ed needs into Secondary Classrooms (3)
   - ExcEduc 605 Child, Learner, Disabilities (3)
8. Choose one course below:
   - CurrIns 649 Literature for Children or Adolescents (3)
   - CurrIns 650 Literature for Children or Adolescents (3)
   - CurrIns 653 Children's Literature: The Last Five Years (3)
   - CurrIns 664 Dramatizing Children's Literature (3)
   - L & I Sci 648 Library Materials for Children (3)

- L & I Sci 658 Library Materials for Young Adults (3)

Wisconsin Reading Specialist (K-12)

Requirements for a Wisconsin Reading Specialist (K-12) license:

1. A Reading Teacher license under s. PI 34.33 (6).
2. A Master's degree with a major emphasis in reading.
3. A portfolio demonstrating expertise in each of the following courses according to Wisconsin Department of Public Instruction 34.32 (8).
4. 8 semester credits in the teaching of reading that includes a practicum.

Required Courses:

1. CurrIns 849 Guiding and Directing School Reading Programs.
2. One credit CurrIns 700 Fieldwork in K-12 Reading Programs taken with CurrIns 849.
3. CurrIns 846 Seminar in Developmental Reading (If taken within 5 years as part of the Reading Teacher program, this requirement can be waived).
4. CurrIns 799 Independent Reading: Content Area Instruction.

Doctor of Philosophy in Urban Education

Specialization in Curriculum and Instruction

Under the auspices of the doctoral program in Urban Education, the Department of Curriculum and Instruction provides doctoral training with a specialization in Curriculum and Instruction. Curriculum and Instruction provides program emphasis in a content area (e.g. reading), education level (e.g. early childhood), a general area (e.g. curriculum theory), or special area (e.g. guiding instructional improvement). Prospective doctoral students wishing to specialize in Curriculum and Instruction must first be admitted to the Urban Education Doctoral Program. Admission and general program requirements can be obtained from the Director of Doctoral Studies in Urban Education. This program is described in detail in the Urban Education section.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

497 Study Abroad. (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st, cons instr, acceptance for Study Abroad Prog.

500 Workshop in Curriculum and Instruction: (Subtitled). 1-6 cr. U/G.
Development of teacher growth through problem solving, self-expression, group thinking, and individual study. Individuals or small groups work on problems growing out of their professional needs. Specific topics and any additional prerequisites will be announced in Timetable each time the course is offered. May be retaken with change of topic. Prereq: jr st or grad st.

501 Developing Language and Cognitive Skills in Early Childhood Education. 3 cr. U/G.
Current theories in language and cognitive development from birth to age eight. Emphasis on application of theories to developmentally appropriate early childhood practices. Prereq: jr st; admis to School of Educ or grad st.

502 Developing Early Reading and Writing. 3 cr. U/G.
Study of literacy patterns of preschool and kindergarten children and how to support their development. Observations and field work are required. Prereq: jr st & admis to School of Educ; or grad st.

503 Assessment Issues in Language Education. 3 cr. U/G.
Approaches to assessment of first and second language learning including rationale, traditional and alternative strategies, interpretation of results for placement, instruction, and program evaluation. Prereq: jr st or instr cons; admis to School of Educ or grad st.

504 Teaching Reading and Writing in Early Childhood: The Primary Years. 3 cr. U/G.
Integrating reading and writing instruction in grades 1-3, based on a child-centered, 'whole language' approach. Practicum included. Prereq: jr st; CurrIns 343 or 502 or cons instr.

505 Home-School Relations. 1-4 cr. U/G.
Theory and strategies for developing effective family-school relationships, with a focus on urban issues. Topics include: teacher-family communications, family education and support, community resources. Prereq: jr st; admis to student teaching or grad st or cons instr.

506 Teaching Reading, Language Arts and Children's Literature in Primary Grades. 6 cr. U/G.
Integrates reading, language arts and children's literature for diverse learners. Focuses on children in emergent, beginning and consolidating stages of literacy development. Conc field experience. Prereq: jr st & admis to School of Educ; or grad st.

507 Teaching Reading, Language Arts and Adolescent Literature in Middle Grades. 6 cr. U/G.
Integrates reading, language arts and adolescent literature for diverse learners. Focuses on children in consolidating accomplished and advanced stages of literacy development. Conc field experience. Prereq: jr st & admis to School of Educ; CurrIns 506(P) or grad st.

508 Language and Urban Schooling. 3 cr. U/G.
General overview of the major issues in both first and second language acquisition, and the relevant implications for urban schooling. Prereq: jr st & admis to School of Educ, or grad st; or cons instr.

509 Reading and Social Welfare. 1 cr. U/G.
Reading process, characteristics of effective reading programs and bibliotherapy as they relate to the work of school social workers. Prereq: admis to Helen Bader School of Social Welfare.

510 Cooperative Strategies for Pre and Early Adolescents. 1-3 cr. U/G.
Teaching and management strategies consistent with fostering productive learning environments for pre and early adolescents. May be retaken to max of 3 cr. Prereq: admis to School of Educ, or grad st.

516 Field Experience/Student Teaching in Middle School. 2-6 cr. U/G.
Implementation of strategies learned in the 6-12 teacher education program May be taken to max of 6 cr. Prereq: admis to School of Educ or grad st.

518 (328) Science Methods I: Middle/Secondary Methods and Fieldwork. 3-6 cr. U/G.
The objectives, curriculum, instructional strategies, and assessment of middle/secondary school science. Not retakeable for cr. Prereq: admis to School of Educ, or grad st.

519 (329) Science Methods II: Middle/Secondary Methods and Fieldwork. 3-6 cr. U/G.
The objectives, curriculum, instructional strategies, and assessment of middle/secondary school science. Includes fieldwork in middle/secondary school. Not retakeable for cr. Prereq: admis to School of Educ or grad st.

520 Developing Mathematical Thinking in Young Children. 3 cr. U/G.
Teaching and learning of mathematics, grades pre k-3. Emphasis on problem-solving, communication, developmentally appropriate experiences with whole numbers, fractions, geometry, measurement, and data analysis. Prereq: jr st; teaching experience.

522 Economic Education. 3 cr. U/G.
Approaches to teaching economic principles. Applications of economic reasoning to current problems. Curricular implications for school programs, grades K-12. Prereq: jr st.

523 Current Issues and Practices in the Teaching of Social Studies. 3 cr. U/G.
Examination of current issues in social studies curriculum reform. Emphasis on the

latest research and teaching practices. Prereq: CurrIns 323 or grad st.

524 Community Resources Workshop. 1-6 cr. U/G.

Designed to give participants greater knowledge and deeper understandings of life and work in the community area; focusing on social and economic resources and special areas of interest. Prereq: jr st & cons dept.

525 Environmental Resources Workshop: (Subtitled). 1-3 cr. U/G.

Methods and curriculum for teaching about environmental problems. Topic-specific prereq will be published in the Schedule of Classes May be retaken with change in topic to max of 6 cr. Prereq: jr st.

527 Science in the Elementary School. 3 cr. U/G.

Study of science curriculum materials; instructional procedures; analysis of pupil learning modes; experience with science equipment; teaching of science as inquiry; individual problems and projects. Prereq: jr st & admis to School of Educ; or grad st.

529 Introduction to Program and Curriculum Evaluation. 3 cr. U/G.

Examinations of various models and approaches to program and curriculum evaluation. Application of the models to a variety of educational programs will be emphasized. Not open to students who have cr in Ed Psy 529, which is identical to CurrIns 529. Prereq: jr st.

530 Workshop in Computer Instruction in the Schools. 3 cr. U/G.

Examination, construction and evaluation of computer extended instruction. Emphasis on participant development of curriculum materials and instructional procedures centered on pupil development. Not open to students who have cr in Ed Psy 530, which is identical to CurrIns 530. Prereq: jr st; cons instr.

531 Teaching of Computer Science. 3 cr. U/G.

Methods and curriculum for the teaching of computer science in the secondary schools. A brief introduction to management of a computer laboratory. Prereq: jr st & admis to School of Educ & CompSci 351; or grad st.

532 (333) Teaching of Mathematics: Secondary. 3 cr. U/G.

Methods and curriculum for the teaching of mathematics in middle and high schools. Prereq: jr st; admis to School of Educ.

533 Foreign Language Workshop. 1-4 cr. U/G.

Analysis of current developments and changes in foreign language education. Critical examination of specific problems, conflicts, and trends -e.g. in teaching basic skills, teaching culture and literature, use of audio-visual materials and the language laboratory; the effect of current competition and foreign language student teaching supervision. Study of curriculum revision and of instructional materials. Individual curriculum projects or research possibilities. Prereq: jr st & cons dept. Not available for grad cr.

535 Methods and Techniques in Affective Education. 1-3 cr. U/G.

Basic principles and practical techniques for instruction in the affective domain are modeled and practiced. Although process oriented, the course does not neglect theoretical frameworks. Prereq: jr st.

541 Principles and Methods of Teaching ESL. 3-4 cr. U/G.

Techniques of introducing ESL at the K-12 level. Teaching of basic language skills, especially listening comprehension and speaking. Curriculum materials and current literature in ESL. Micro teaching provided. Prereq: jr st or instr cons.

542 History and Politics of Second Language Education. 3 cr. U/G.

General overview of the history, politics, legal and social contexts of language education in the United States today. Prereq: jr st or cons instr.

543 Developing Biliteracy. 3 cr. U/G.

Stresses the practical application of theory and research on language development in a bilingual setting. The development of primary language skills is emphasized. Prereq: jr st or cons instr; admis to School of Educ, or grad st.

544 Improving the Teaching of Reading: (Subtitled). 1-3 cr. U/G.

Focuses on instructional problems of teachers in teaching developmental reading. Specific topic and any additional prerequisites will be announced in the Schedule of Classes each time the course is offered. May be retaken with change in topic to max of 6 cr. Prereq: jr st; teaching experience.

545 Reading in the Content Areas: Middle, Junior, and Senior High School. 2-3 cr. U/G.

Survey of reading process and developmental reading in the middle, junior and senior high school. Emphasis on application of instructional techniques relating the use of reading within subject matter fields. Prereq: jr st; admis to School of Educ or grad st.

546 Language, Content, and Comprehensible Input. 3 cr. U/G.

Theories and methods for delivering content to second language learners. Models of sheltered and learning strategies instruction will be explored. Prereq: jr st or cons instr.

547 Curricular Applications of the Internet. 3 cr. U/G.

Analysis and construction of internet based instruction focusing on the use of interactive media in grades 1-12. Prereq: jr st & admis to School of Educ, or grad st.

551 Teaching of Language Arts. 1-4 cr. U/G.

Survey of curriculum, methods and materials in skills and expressive areas of language, linking theory with practical instructional strategies in both preschool and elementary settings. Prereq: jr st & admis to School of Educ; or grad st.

552 Teaching Reading, Grades 1-3. 3 cr. U/G.

Foundations of reading and instructional strategies which support the development of literacy learning in the primary grades (grades 1-3) with concurrent teaching field experience. Counts as repeat of 3 cr of CurrIns 506. Prereq: jr st, Admis to School of Educ; or grad st.

553 Teaching Language Arts and Children's Literature, Grades 1-3. 3 cr. U/G.

Language arts instruction and children's literature in the middle childhood grades (grades 1-3) with concurrent teaching field experience. Counts as repeat of 3 cr of CurrIns 506. Prereq: jr st; admis to School of Educ; or grad st.

554 Teaching Reading and Adolescent Literature, Grades 4-8. 3 cr. U/G.

Reading instruction and literature for early adolescents, grades 4-8 with concurrent teaching field experience. Counts as repeat of 3 cr of CurrIns 507. Prereq: jr st; admis to School of Educ; or grad st.

555 Teaching Language Arts, Grades 4-8. 3 cr. U/G.

Language arts instruction in the early adolescent grades, grades 4-8, with concurrent teaching field experience. Counts as repeat of 3 cr of CurrIns 507. Prereq: jr st; admis to School of Educ; or grad st.

560 Improving Mathematics Teaching and Learning: (Subtitled). 1-3 cr. U/G.

Focuses on instructional and curricular issues in mathematics. Specific topics and any additional prereqs will be announced in the Schedule of Classes each time the course is offered. Retakeable with change in topic to max of 9 cr. Prereq: jr st; teaching experience.

561 Issues in Elementary and Middle School Mathematics. 3 cr. U/G.

Introduction to the teaching and learning of mathematics at the elementary and middle school levels. Emphasis on curriculum, instructional strategies, and assessment. Prereq: jr st; admis to School of Educ or cons instr or grad st.

562 Secondary School Mathematics Issues for Exceptional Education Teachers. 1 cr. U/G.

Issues in secondary mathematics curriculum, instructional strategies, and assessment for teachers of students with special needs. Prereq: jr st; admis to exceduc middle/high cert prog.

570 Improving Science Teaching and Learning: (Subtitled). 1-3 cr. U/G.

Focuses on instructional and curricular issues in science. Specific topics and any additional prereqs will be announced in the Schedule of Classes each time the course is offered. Retakeable with change in topic to max of 9 cr. Prereq: jr st; teaching experience.

579 Current Topics in Curriculum and Instruction: (Subtitled). 1-3 cr. U/G.
The specific topic will be announced in the Schedule of Classes each time the course is offered. May be retaken with change in topic to max of 9 cr including cr earned under CurrIns 779. Prereq: jr st, cons instr.

585 Best Practices in Early Childhood for Children and Families. 3 cr. U/G.
Child care as a family-friendly community including integration of child growth and development principles into all aspects of the program. Prereq: jr st; admis to child care director's prog or cons instr.

593 Supervision of Student Teaching. 1 cr. U/G.
Roles and responsibilities of the supervising teacher in planning, guidance and evaluation of the learning experiences of prospective teachers. Prereq: current teacher certification.

600 Schoolhouse Commercialism: Implications for Educational Practice. 3 cr. U/G.
Provides students with knowledge of the history and current status of schoolhouse commercialism and the ability to analyze and respond appropriately to commercializing activities. Prereq: jr st or cons instr.

602 Early Childhood Education. 1-4 cr. U/G.
Basic principles of curriculum planning for young children. Education in nursery schools, day care centers, kindergartens and primary grades. A study of the materials of instruction and techniques of teaching at this level. Prereq: jr st.

620 Curriculum and Standards for School Mathematics. 3 cr. U/G.
Overview of historical and current perspectives on curricular reforms and the standards movement in mathematics education. Counts as repeat of CurrIns 579 with topic, 'National Mathematics Standards.' Prereq: jr st; teaching experience

625 Principles and Practices of Teaching Geometry and Geometric Thinking. 3 cr. U/G.
Examination of instructional sequences for geometry and analysis of teaching strategies for developing and assessing students' geometric thought. Counts as repeat of CurrIns 560 with topic "Geometry and Geometric Thinking." Prereq: jr st; teaching experience

626 Principles and Practices of Teaching Data Analysis and Algebraic Reasoning. 3 cr. U/G.
Examination of instructional sequences for integrating data analysis and algebra and analysis of teaching strategies for developing and assessing students' algebraic reasoning. Counts as repeat of CurrIns 560 with topic 'Data Analysis and Algebraic Reasoning.' Prereq: jr st; teaching experience.

629 Change and Change Strategies in Education. 1-4 cr. U/G.
This course will involve students in an exploration of individual groups and institutions as these elements relate to change processes in education. Models and strategies will be studied and applied to change problems. Prereq: jr st; teaching experience.

637 World Language Methods and Materials. 3 cr. U/G.
Basic principles and practical instructional techniques intended to prepare teachers with experiences and background to teach world languages. Prereq: jr st or cons instr.

639 Critical Issues and Methods in World Language Education. 3 cr. U/G.
Advanced preparation for teachers of world languages that will equip them for teaching world languages to students from early childhood through adolescence. Prereq: jr st, CurrIns 637(P) or equiv, or cons instr.

641 Principles and Methods of Teaching English as a Second Language. 1-4 cr. U/G.
Review of English linguistics in teaching English as a foreign language. Introduction and practice with methods of teaching English in secondary and adult education programs. Prereq: jr st.

642 Teaching Standard English as an Alternate Dialect in Urban Schools. 1-4 cr. U/G.
Offered once per academic year, once every second summer. Linguistic aspects of application of research and scholarship to the problems of teaching standard english in urban schools. Includes recent curricular developments and micro teaching. Prereq: jr st. Available as grad level only.

643 Balanced Literacy Instruction in the Elementary School. 1-3 cr. U/G.
Study and implementation of assessment and teaching strategies for balanced literacy instruction including phonics. Retakable to max of 6 cr. Not open for cr to students with CurrIns 343(ER) or equiv. Prereq: jr st.

644 Enhancing Literacy Learning for Diverse Learners: (Subtitled). 3 cr. U/G.
Teaching reading and writing to diverse learners. Jointly offered with & subtitles count as repeat of same title of ExcEduc 644. CurrIns 644 & ExcEduc 644 may be retaken with change of topic to combined 9 cr max. Prereq: currently teaching with at least 2 yrs experience; cons instr.

646 University of Wisconsin System Reading Research Symposium. 1-3 cr. U/G.
Updates students on most recent reading research. Students are required to attend the two-day symposium. May be retaken for credit. Prereq: jr st.

647 Early Reading Empowerment: Part 1. 3 cr. U/G.
First semester of a 2 semester practicum designed for practicing teachers; develop expertise in assessing and teaching reading to struggling early literacy learners. Prereq: currently teaching, at least 2 years teaching experience, cons instr.

648 Early Reading Empowerment: Part 2. 3 cr. U/G.
Second semester of a 2 semester practicum designed for practicing teachers; develop expertise in assessing and teaching reading to struggling early literacy learners. Prereq: CurrIns 647(P), currently teaching, at least 2 years teaching experience, cons instr.

649 Children's Literature. 1-4 cr. U/G.
To acquaint students with the wide range of good books for children and to provide wide reading experiences in children's literature; evaluation and use of current materials. Prereq: jr st & admis to School of Educ; or grad st.

650 Reading Interests of Adolescents. 3 cr. U/G.
Recently published literature for adolescents - types, themes, issues related to school programs. Prereq: jr st.

652 Integrating Reading and Writing: Kindergarten through Eighth Grade. 3 cr. U/G.
The relationship of writing instruction to reading children's books. Teaching focus on literary elements and base writing problems in literature; conferring and editing. Prereq: jr st; teaching experience or cons instr.

653 Children's Literature: The Past Five Years. 3 cr. U/G.
Analysis of children's books published in the past five years. Arranged by genres, this course considers issues, trends, evaluative criteria, and classroom uses of books. Prereq: jr st; CurrIns 649 or equiv.

654 Speaking and Listening in Whole Language Classrooms. 3 cr. U/G.
Theory and techniques of developing oral fluency. Specific forms of communication to be considered: informal sharing (listening and talking), discussion, reporting, choral reading, storytelling, and dramatics. Prereq: jr st or grad st..

655 Applied Educational Linguistics. 3 cr. U/G.
Explanation of linguistic principles which can be applied to language-based activities in the classroom and which can be useful in solving language-learning problems. Prereq: jr st or cons instr.

657 Approaches to Teaching Texts in the Secondary Schools. 3 cr. U/G.
The pedagogy of literature and other texts and its classroom applications: canonical and diverse literary selections; literary critical theory. Prereq: jr st.

658 (352) Teaching of English. 3 cr. U/G.
The objectives, materials and techniques of teaching English. Covers language and writing methods. Prereq: jr st, Admis to SOE & CurrIns 657(P); or grad st.

664 Dramatizing Literature in Elementary Classrooms. 1-4 cr. U/G.
Nature of creativity in children; basic principles of informal playmaking, including movement, mime, characterization, dialogue, and conflict.

Using children's ideas to develop literature-based dramatizations. Prereq: jr st.

668 Introduction to Instructional Technology. 1-4 cr. U/G.
The utilization of instructional technology. Emphasis is placed upon the effective integration and utilization of instructional media as based upon a systems approach to organization. Laboratory exercises included. Prereq: jr st. Not available for grad cr.

669 Production and Utilization of Media. 1-4 cr. U/G.
Production techniques and utilization of audio-visual media including audio tapes, transparencies, slides and videotapes. 35mm camera or equiv required. Prereq: jr st; CurrIns 668 or L&I Sci 668. Not available for grad cr.

675 Making Schools Work: Promoting Positive Change in Chronic Problem Behavior. 3 cr. U/G.
Methods of applying system theory, cybernetics, and communication theory concepts in classrooms and schools to help solve recurring interpersonal problems and improve educational effectiveness. Prereq: grad st or cons instr.

700 Field Work in Schools, Agencies and Institutions: (Subtitled). 2-6 cr. G.
Supervised field experience planned in conference with the student's major professor. An evaluation report required. Prereq: grad st & cons instr.

701 Curriculum Planning and Ideologies. 3 cr. G.
The concept of elementary and secondary curriculum in modern american education. Foundation principles and major objectives. Prereq: grad st.

702 Curriculum Problems and Practices in Early Childhood Education. 3 cr. G.
Current trends in the education of children in day care centers, nursery schools, kindergartens and primary grades. Opportunities for study of individual problems of teachers at this level. Prereq: grad st.

705 Research in Schools and Communities. 3 cr. G.
Overview of content and inquiry in curriculum and instruction. Prereq: grad st.

706 Elementary School Curriculum. 3 cr. G.
Basic concepts of curriculum; the relation of foundation areas to the problems of curriculum development; modern trends in developing educational programs for children. Prereq: grad st.

710 Curriculum for Early Adolescents. 2-3 cr. G.
Functions and pruposes of schools for early adolescents; historical developments; types of curricula; instructional methods and techniques; recent developments and trends. Prereq: grad st.

712 Secondary School Curriculum. 3 cr. G.
Social function of the secondary school; recent developments; historical development of the curriculum; types of curricula, relation of the curriculum and the extra curriculum. Prereq: grad st.

714 Analysis of Instruction to Improve Teaching and Learning. 3 cr. G.
Study of teaching behaviors and models. Examination of factors involved in deciding how to teach. Opportunity to analyze teaching and clarify personal teaching preferences. Prereq: grad st.

715 Guiding Instructional Improvement. 3 cr. G.
Methods of applying the knowledge of instruction to solve instructional problems; ways of working with teachers to improve the quality of instructional behavior, styles and strategies. Prereq: grad st; CurrIns 714 or cons dept.

716 Teaching in Urban & Diverse Communities. 1-4 cr. G.
Teaching in a culturally pluralistic setting. An examination of how the law, school policy and equity issues affect curriculum and instructional practices. Prereq: grad st.

721 Advanced Problems in the Teaching of Social Studies. 3 cr. G.
For teachers with experience who wish to improve their understanding and skill; equal emphasis on theory and practice. Prereq: grad st & cons instr.

724 Advanced Problems in Science Education. 3 cr. G.
Study of current issues and problems related to science instruction and curriculum developments, course planning, analysis of learning in the science classroom, techniques of evaluation, review of research in science education. Prereq: grad st & science teaching experience.

729 Qualitative Research and Field Studies in Educational Settings. 3 cr. G.
Examination of qualitative techniques as applied to educational research and evaluation in schools, classrooms, and other educational settings. Not open to students who have cr in Ad Ldsp 729 which is identical to CurrIns 729. Prereq: grad st; Ed Psy 528(P) or equiv.

730 Mathematics in Elementary Education. 3 cr. G.
Current trends in mathematics instruction. Investigation of curricular scope and sequence as it relates to mathematics learning by children. Emphasis on special issues. Prereq: grad st; teaching experience.

731 Mathematics in the Secondary School. 3 cr. G.
Current treands in curriculum and instruction. Opportunity to work on special problems. Prereq: grad st.

734 Advanced Problems in the Teaching of Foreign Languages. 3 cr. G.
Close re-examination of instructional practices and the soundness of the underlying principles in a period of transition regarding aims, methods, content and psychological aspects of foreign language learning. The teaching of culture and other timely material in changing curricular expectations. Prereq: grad st & teaching experience.

744 Secondary Developmental Reading Practicum. 2-4 cr. G.
Analysis of developmental reading methods, assessment devices for secondary students, supervised classroom teaching practicum of secondary students. Prereq: grad st; CurrIns 747 & 545.

746 Advanced Reading Education. 3 cr. G.
Analysis and evaluation of research on reading processes, including psycholinguistic perspectives. Evaluation of reading models. Application to current approaches to teaching reading emphasized. Prereq: grad st; CurrIns 643(P) or equiv.

747 Reading Assessment and Instruction with Practicum: K-12 Part I. 3 cr. G.
Analysis of the factors contributing to reading difficulty; use of formal and informal assessments with implications for instruction. Includes work with student who have reading difficulties. Prereq: grad st; CurrIns 504, 506, 544, 545 or equiv; or cons instr.

748 Reading Assessment and Instruction with Practicum, K-12: Part II. 3 cr. G.
Diagnosis, teaching, curriculum planning and materials for disabled readers. Students will work with small groups of elementary age disabled readers in a supervised tutorial situation. Prereq: grad st; CurrIns 747(P).

751 Language Arts in the Elementary School. 3 cr. G.
Survey and critical appraisal of programs, practices and trends, emphasis on oral and written expression including spelling and handwriting; specific study of individual problems. Prereq: grad st.

753 Teaching Language and Composition. 3 cr. G.
Consideration of problems, curricular materials and teaching procedures in the areas of language, grammar and written composition, with emphasis on language history and applications of linguistic knowledge. Prereq: grad st.

754 Teaching Literature. 3 cr. G.
Curriculum materials, methods of organization and approaches to the study of literature, with attention to problems of teaching prose fiction and nonfiction, drama and poetry. Micro teaching used. Prereq: teaching experience & grad st.

774 College Teaching. 3 cr. G.
Analyzes curricular issues and instructional practices in college and adult programs. Research on youth, college influences and adult change will be reviewed. Prereq: grad st.

779 Current Topics in Curriculum and Instruction: (Subtitled). 1-3 cr. G.

Specific topic announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr, including grad cr earned under CurrIns 579. Prereq: grad st, cons instr.

794 Teaching Gifted Children. 3 cr. G.
Characteristics and identification of gifted children. Instructional techniques for dealing with giftedness, survey of current research and on going program development, implementation procedures and the role of the teacher within the framework of the school system. Prereq: grad st.

795 Developing Curriculum for Gifted Students. 3 cr. G.
Historical development and current trends in providing programs and learning materials for gifted students, K-12. Opportunity to develop specific curricular programs to serve individual needs. Prereq: grad st, CurrIns 794.

799 Independent Reading: (Subtitled). 1-3 cr. G.
- Prereq: enrollment in master's prog.

800 Master's Seminar in Curriculum and Instruction. 3 cr. G.
Required for all curriculum and instruction students. Students develop and defend a seminar project. Master's examination is in conjunction with the seminar. Prereq: grad st; 30 grad cr; cons dept; advisor's recom.

801 Urban Education: Doctoral Seminar in Curriculum & Instruction. 3 cr. G.
Curriculum and instruction goals, programs, and practices in urban schools, as analyzed in varying critical perspectives. Prereq: admis to PhD prog; Educ 701(P).

802 Recent Research in the Field of Early Childhood Education. 3 cr. G.
A study of recent research in the area of early childhood education and in child development at these levels. Practical applications to the programs of day care centers, nursery schools, kindergartens and primary grades will be made. Prereq: grad st.

803 Reflective Practice: Urban Early Childhood Teaching. 4 cr. G.
The relationships between teaching practice and the socio-cultural-historical contexts of teaching; application to teaching through reflective analysis. Prereq: grad st

804 Practice in Curriculum Planning. 3 cr. G.
Development of curriculum guides and teaching aids. Use of teaching aids in pupil-teacher planning. Organization of curriculum programs on state-wide basis and in local school systems. Prereq: grad st; CurrIns 701; cons dept.

805 History Of Curriculum Development. 3 cr. G.
A study of the history of curriculum development in american education including major issues, movements and figures. Prereq: grad st; Ed Pol 650; cons dept.

813 Instructional Research and Theory. 3 cr. G.
Examination of current research and theory concerning teacher behavior and its antecedents and consequences. Implications for teaching teacher training, evaluation of teaching, and classroom research. Prereq: grad st; CurrIns 714 or cons dept.

814 Seminar in Instruction. 3 cr. G.
Individual instruction problems are examined. Emphasis is placed upon developing and carrying out a research project dealing with instruction. Prereq: grad st; CurrIns 714 or cons dept.

816 Curriculum Designs for Urban Schools. 3 cr. G.
Examination of the problems of urban schools and the implications of these problems for the design of school curriculum. Prereq: grad st; CurrIns 701 or 716; or cons instr.

819 Theory and Design of Curriculum. 3 cr. G.
Examination of the essential operations of curriculum from the point of view of common curriculum patterns, development of the theoretical considerations underlying the application of these operations to curriculum planning and development. Prereq: grad st; CurrIns 701(P).

829 Advanced Qualitative Research Techniques for Education Settings. 3 cr. G.
Advanced examination of qualitative research techniques in three areas: conceptual design; data collection methods; and data analysis and reporting. Not open to students who have cr in Ad Ldsp 829, which is identical to CurrIns 829. Prereq: Ad Ldsp 729 (CurrIns 729) or cons instr.

830 Seminar in Elementary School Mathematics Education. 3 cr. G.
Critical issues in arithmetic instruction. Survey of research studies and their implications for instruction. Development and discussion of individual research problems. Prereq: grad st; cons dept.

839 Practicum in Writing from Qualitative Research for Educational Settings. 3 cr. G.
Practice in writing from qualitative research data and analysis of qualitative text. Not open to students who have cr in Ad Ldsp 839 which is identical to CurrIns 839. Prereq: grad st; Ad Ldsp or CurrIns 729(P) & 829(P).

846 Seminar in Developmental Reading: (Subtitled). 3 cr. G.
Topics will vary. In-depth study of implications of trends and research for improving instruction and k-12 curriculum planning. Specific topic and any additional prerequisites will be announced in schedule of classes each time course is offered. May be retaken with change in topic to max of 6 cr. Prereq: grad st; CurrIns 746.

849 Guiding and Directing School Reading Program. 3 cr. G.
Consideration and development of inservice work as a reading resource teacher guiding staff efforts toward improving the school reading program and preventing reading disability. Prereq: grad st; CurrIns 746; CurrIns 846 or 848.

880 Proseminar in Urban Education: Curriculum and Instruction. 2 cr. G.
An examination of selected problems and issues in urban education. Prereq: grad st; admis to urban educ doctoral prog.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

890 Master's Research or Thesis. 3-6 cr. G.
Research or thesis work for students in the master's program in curriculum and instruction. Prereq: grad st; cons advisor.

900 Seminar In Curriculum Construction. 3 cr. G.
Opportunity to develop curriculum materials or work on individual problems. Prereq: grad st; cons dept.

990 Doctoral Research or Thesis. 1-3 cr. G.
- Prereq: admis to doctoral prog.

993 Seminar in the Pre-Service and In-Service Education of Teachers. 3 cr. G.
For advanced students interested in problems of teacher education. Prereq: grad st; cons dept.

999 Independent Reading. 1-3 cr. G.
For the benefit of doctoral students unable to secure needed content in regular courses. Prereq: post-masters or doctoral st; cons instr.

EARTH AND FRESHWATER SCIENCES

School/College: College of Letters and Science

No Degree Conferred: Courses Only

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

610 Freshwater Inland Seas. 3 cr. U/G.
An oceanographic approach to the study of freshwater inland seas with regard to geology, hydrodynamics, climate, interactions with land, wetlands, streams, and biota interactions. Prereq: jr st; one upper-division natural science course.

611 Environmental Change and Freshwater Ecosystem Health. 3 cr. U/G.
An integrated, holistic approach to the impacts of global climate change on freshwater ecosystems from the population to the molecular levels. Prereq: jr st; one upper-division natural science course.

900 Colloquium in Earth and Freshwater Sciences. 1 cr. G.
Lectures by staff and visitors on research in various areas of earth and freshwater sciences. Prereq: grad st

901 Earth and Freshwater Sciences Seminar. 1 cr. G.
Gateway seminar into the Earth and Freshwater Sciences Ph.D. program. Prereq: grad st.

990 Research and Dissertation. 1-9 cr. G.
Research and writing of the doctoral dissertation under the supervision of the major professor. Prereq: grad st; cons instr.

999 Independent Study. 1-3 cr. G.
For graduate students unable to secure needed content in regular courses. Retakable w/ chg in topic to 6 cr max. Prereq: grad st; cons instr.

ECONOMICS

- Phone: (414) 229-4811
- Fax: (414) 229-3860
- E-mail: bahmani@uwm.edu

School/College: College of Letters and Science

Degrees Conferred:

- MA in Economics
- PhD in Economics

Overview

The Department of Economics offers graduate programs of study designed to prepare students for careers in education and for careers in administrative and research positions in government, industry and labor. The programs are built upon a solid core of training in economic theory and in quantitative analysis, with area concentrations in econometrics, economic growth and development, industrial organization, international economics, labor economics and human resources, mathematical economics, monetary theory and policy, and urban and regional economics.

Graduate Faculty

Professors

Arora, Swarnjit S., Ph.D., State University of New York at Buffalo
Bahmani-Oskooee, Mohsen, Ph.D., Michigan State University
Bose, Niloy, Ph.D., Virginia Polytechnic Institute and State University
Heywood, John, Ph.D., University of Michigan
Holahan, William L., Ph.D., Brown University, Chair
Kim, Sunwoong, Ph.D., Massachusetts Institute of Technology
Mamalakis, Markos J., Ph.D., University of California-Berkeley
Meadows, G. Richard, Ph.D., Washington University
Mohtadi, Hamid, Ph.D., University of Michigan
Niho, Yoshio, Ph.D., Brown University
Peoples, James H., Ph.D., University of California-Berkeley
Santiago, Carlos, Ph.D., Cornell University

Associate Professors

Adams, Scott, Ph.D., Michigan State University
Bender, Keith, Ph.D., Duke University
Chakrabarti, Avik., Ph.D., University of Michigan
Murshid, Antu, Ph.D., Rutgers University
Tahmiscioglu, Kamil, Ph.D., University of Southern California

Assistant Professors

Drewianka, Scott, Ph.D., University of Chicago
Kishor, N.Kundan, Ph.D., University of Washington
Lei, Vivian, Ph.D., Purdue University
McGinty, Matthew, Ph.D., University of California-Santa Cruz
Neumann, Rebecca, Ph.D., University of Colorado
Vesely, Filip, Ph.D., Purdue University

Master of Arts in Economics

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

1. An undergraduate major in economics and one semester of calculus. Alternatively, adequate preparation at the undergraduate level equivalent to two semesters of coursework in intermediate economic theory, one semester of statistics, and one semester of calculus.
2. Submission of scores on the Graduate Record Examination General Test or equivalent quantitative courses is recommended. Test of English as a Foreign Language exam is required for applicants whose native language is not English.
3. Two letters of recommendation from persons familiar with applicant's scholastic achievement and potential.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. Deficiencies in economic theory are made up through Economics 301 (Intermediate Price Theory) and 302 (Intermediate Income Theory); in statistics through Economics 210 (Economic Statistics); and in calculus through Math 211.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. In Economics the newly admitted master's student is advised by the Graduate Study advisor.

Option A: Thesis Option

Credits and Courses

Minimum degree requirement is 24 graduate credits, 6 of which may be taken in Economics 990 (Graduate Thesis), for the completion of an acceptable thesis. The student must select one area of concentration offered by the Department and must take at least two semesters in this concentration in courses numbered 700 or above (except Economics 990, 991 and 999) or take Economics 506 and 606. Every student must also take Economics 513, 701 and 702.

A concentration on Latin America is available. A student with previous interest and commitment in Latin American studies, who is able to demonstrate — through examination — good reading ability and fair conversational ability in Spanish or Portuguese, is permitted to select this concentration under Option A. Requirements for this concentration are Economics 774, 775 and 778 plus 3 credits in Interdisciplinary Seminar on Latin America plus a graduate course in Latin America in some field other than economics.

Thesis

An acceptable thesis must be written on the student's area of concentration.

Comprehensive Examination

The student must pass a final oral examination in defense of the thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Option B: Non-Thesis Option

Credits and Courses

Minimum degree requirement is 24 credits of graduate work. The student must select one area of concentration offered by the Department and must take at least two courses in this concentration in courses numbered 700 or above, or take Economics 506 and 606. The student must also select any two courses numbered 700 or above (except Economics 734,990, 991, and 999) in other areas of economics. In addition, the student must take Economics 513, 701 and 702.

Thesis

No formal thesis is required. The student must submit a master's paper instead of a thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Economics

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program. A master's degree is not prerequisite for admission to the PhD program in economics.

- An undergraduate major in economics with a grade point average (both overall and in economics) of 3.0 (4.0 scale) and one semester of calculus or adequate preparation at the undergraduate level equivalent to two semesters of coursework in intermediate economic theory, one semester of statistics, and one semester of calculus.
- An applicant having a master's degree in economics or graduate coursework in economic theory must have a graduate grade point average of at least 3.33 (4.0 scale).
- Submission of scores on the Graduate Record Examination General Test and Subject Test or equivalent quantitative courses is recommended. Test of English as a Foreign Language exam is required for applicants whose native language is not English.
- Two letters of recommendation from persons familiar with applicant's scholastic achievement and potential.

Reapplication

A student who is in the master's program must formally reapply for admission to Graduate School before continuing toward the PhD. To receive doctoral student status, a student must complete the master's degree or obtain a waiver of this requirement from the admissions committee, the graduate study advisor, and the Department Chair. The waiver must be obtained before the student completes 27 credits in the MA program.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. In Economics, the newly admitted PhD student is advised by the Graduate Study advisor.

Course of Study

Minimum degree requirement is 54 credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM. Of the total credits required, a minimum of 42 must be taken in the field of economics, including 12 credits in Econ 801, 802, 803, and 804; 12 credits in quantitative theory; a total of 15 credits in two areas of concentration; and 3 cr of research skills as detailed below. An additional 9 to 12 credits may be chosen either in a minor field outside the Department or in electives either in or outside the Department, as follows.

Minor field or electives: This requirement may be satisfied in one of two ways:

1. Minor field: 9 to 12 credits in a single department other than Economics; courses planned with a professor in the minor department and the examination, if required, is administered by the minor department.
2. Electives: 9 to 12 credits in courses from any departments, including Economics, but no more than 6 credits in any one department other than Economics; courses are to be planned with the approval of the Graduate Study advisor and no examination is required.

Research skill

Research skill requirements are individually assigned by the graduate study advisor. Research skill requirement is fulfilled through courses in computer science, mathematics, statistics, mathematical economics (700 level or above), or econometrics (700 level or above).

Residence

The student must meet minimum Graduate School residence requirements. The PhD student meets the continuous portion of the residence credit requirement by completing 8 to 12 credits in each of two consecutive semesters, exclusive of summer sessions. Residence credit is not earned at the master's level or prior to award of the master's degree.

Doctoral Preliminary Examination

The student must pass doctoral preliminary examinations for formal admission to candidacy for the degree. The examinations are given in sections covering economic theory and the student's two areas of concentration. Students must take the sections in economic theory first.

Students may attempt any prelim exam twice. Any student failing a prelim exam twice may appeal to the Graduate Faculty for permission to take the exam for a third time if:

1. The student's request is accompanied by letters of support from at least two members of the faculty and where one of the faculty is a member of the prelim committee awarding the failing grade, and
2. The student is still able to satisfy the time limits outlined below. (Note: These conditions must be met before an appeal can be considered by the Graduate Faculty. Satisfaction of these conditions in no way obligates the Graduate Faculty to grant any appeal.)

Students may not take the field exams until they have passed both theory exams. A section is also included covering the minor if there is one; this section is administered by the department concerned.

The schedule specifying the time at which these examinations are taken is as follows:

1. A doctoral student with an MA in Economics from UWM must attempt both theory prelims at the conclusion of 2 semesters or 12 credits (whichever happens last) and must pass both theory prelims prior to the start of the 5th semester or at the conclusion of 24 credits (whichever happens last).
2. A doctoral student with an MA in Economics from another institution must attempt both theory prelims at the conclusion of 3 semesters or 24 credits (whichever happens last) and must pass both theory prelims prior to the beginning of the 6th semester or at the conclusion of 36 credits (whichever happens last).
3. A doctoral student without an MA in Economics must attempt both theory prelims at the conclusion of 5 semesters or 36 credits (whichever happens last) and must pass both exams prior to the beginning of the 8th semester or at the conclusion of 48 credits (whichever happens last).

Dissertation

The candidate must write a dissertation which demonstrates ability to formulate a research topic and pursue independent and original investigation.

Dissertation Defense

The candidate must, as the final step toward the degree, pass an oral examination in defense of the dissertation.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

See the doctoral requirements for additional information.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

310 Research Methods for Economics. 3 cr. U/G.
Statistical research methods, especially cross-section and time-series regression, applied to evaluation of empirical literature and a directed research project. Not open for cr to students who have cr in Econ 513(531). Prereq: jr st; Econ 210(P) or cons instr.

403 Business Cycles. 3 cr. U/G.
Explanation of fluctuations in economic activity; their origin and amplification; the forecasting of fluctuations; fiscal and monetary stabilization policies. Prereq: jr st; Econ 210(P) & 302(P).

405 Breakthroughs and Debates in Economic Thought. 3 cr. U/G.
Evolution of economic ideas and contributions from such thinkers as Smith,

Ricardo, Marx, Marshall, Keynes, Veblen, etc. Prereq: jr st; Econ 301(P) & 302(P).

411 Economic Forecasting Methods. 3 cr. U/G.
Economic time series, analysis, forecasts. Trends, seasonality, cycles, smoothing procedures. Simulation models; sample survey methods. Extensive applications using macro and financial data. Forecasting software use. Prereq: jr st; Econ 210(P).

413 (431) Statistics for Economists. 3 cr. U/G.
Elements of probability; joint marginal and conditional distributions; measures of central tendency and dispersion, calculus of expectations; central limit theorem. Estimation and testing of economic relations. Prereq: jr st; Econ 210(P).

415 Economics of Employment and Labor Relations. 3 cr. U/G.
Analysis of wage setting, labor markets, human capital and collective bargaining. Study of labor standards, regulation and the role of unions and government. Prereq: jr st; Econ 103(P).

422 Regional Economics. 3 cr. U/G.
The growth and decline of economic regions, the location of decisions of firms, infrastructure issues, intergovernmental relations and influences on regional economic performance. Prereq: jr st; Econ 301(P).

426 Public Economics. 3 cr. U/G.
Economic analysis of government and policy, including taxation and expenditures, policy responses to market failures, redistributional programs, and related topics. Prereq: jr st; Econ 104(P) & 301(P).

432 (452) Industrial Organization. 3 cr. U/G.
Economic analysis of asymmetric information, barriers to competitive entry, licensing, pricing practices/transactions costs; application to markets for insurance, computers, health care, used cars, food. Prereq: jr st; Econ 301(P).

437 (410) Public Utilities and Transportation Economics. 3 cr. U/G.
Performance and regulation of public utilities (electricity, gas, cable television, internet) and transportation facilities (interstate highways, passenger and freight service by air and rail). Prereq: jr st; Econ 301(P).

447 (451) Labor Economics. 3 cr. U/G.
The economics of unions, minimum wage, poverty and welfare programs; influence of international trade on domestic labor markets. Study of labor supply and labor demand. Prereq: jr st; Econ 301(P).

448 (478) Economics of Human Resources. 3 cr. U/G.
The economics of education, training, discrimination, and workplace incentives. Study of hiring, promotion, and job search. Prereq: jr st; Econ 103(P) or cons instr.

454 International Trade. 3 cr. U/G.
Why countries trade; who wins, who loses; facts about world trade; political economy of trade. Balance of payments, Asian crisis, European Union, American wage dispersion. Prereq: jr st; Econ 301(P).

455 International Finance. 3 cr. U/G.
International monetary system; spot and foreign exchange markets; balance of payments; international adjustment mechanisms; international finance policy; history and institution. Prereq: jr st; Econ 302(P).

458 Selected Topics in Economics: (Subtitled). 3 cr. U/G.
Variable content course designed to focus on special topics not normally discussed in detail in other existing courses. Retakable w/chg in topic. Prereq: jr st & cons instr.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance in Study Abroad Prog.

506 Mathematical Economics I. 3 cr. U/G.
Mathematical techniques used in economic analysis, including calculus and matrix algebra. Applications include optimizing behavior of firms and consumers. Prereq: jr st; Econ 301(P); Math 211(P).

513 (531) Econometrics. 3 cr. U/G.
Multiple regression, generalized least squares, specification analysis, multicollinearity, multiple equations including simultaneous equations. Prereq: jr st; Econ 413(431)(P).

525 (effective 01/26/2009) The Economics of Water. 3 cr. U/G.
Comprehensive development of water resource economics for engineers, scientists, and economists; analysis of the public and private sector economics of water resources. Prereq: jr st; Econ 103(P); Math 231(P); a statistics course; or cons instr.

529 (509) Applied Microeconomics in the Public Sector. 3 cr. U/G.
Economic applications to public sector decision-making; analysis of problems, e.g. public services, pricing, efficiency of intergovernmental grants, whether to invest in large-scale public projects. Prereq: jr st; Econ 301(P).

606 Mathematical Economics II. 3 cr. U/G.
Difference and differential equations applied to economic variables such as human capital, consumption, learning, energy use, and pollution. Essential preparation for graduate work. Prereq: jr st; Econ 506(P).

701 Economic Theory: Microeconomics. 3 cr. G.
Conventional theory of the behavior of firms, consumers, and markets; partial and general equilibria. Prereq: grad st; Econ 301(P). Econ 506(R).

702 Economic Theory: Macroeconomics. 3 cr. G.
Aggregative economic analysis, problems of aggregation and significant aggregates; national income, flow-of-funds, and input-output. Prereq: grad st; Econ 302(P). Econ 506(R).

705 History of Economic Thought. 3 cr. G.
Review of major developments in economic thought and analysis that have contributed to modern economics in its major forms, schools, and applications. Prereq: grad st; Econ 405(P).

706 Mathematical Economics. 3 cr. G.
Mathematical analysis of modern economic problems; dynamic input-output system, stability analysis, general equillibrium analysis, optimizing theory including linear and non-linear programming, activity analysis and turnpike theory, and mathematical growth models. Prereq: grad st; Econ 506(P) & 606(P).

708 Industrial Organization I. 3 cr. G.
Exploration of the relationship between industrial structure and market performance. Topics covered include r&d, advertising and government regulations. Prereq: grad st; Econ 301(P), 302(P) & 506(P), or cons instr.

709 Industrial Organization II. 3 cr. G.
Evaluation of the economic impact of the anti-trust laws. Topics covered include horizontal restraint, vertical restraint, patent, and mergers. Prereq: grad st; Econ 301(P), 302(P), & 431(P).

710 Applied Econometrics. 3 cr. G.
Specification, estimation and testing of economic theory. Application of distributed lags, autoregressive models, system of equations, discrete choice models and cointegration principles. Prereq: grad st & Econ 531(P).

712 Urban Economic Theory. 3 cr. G.
Trends in U.S. urbanization and suburbanization. Studies of urban household and firm behavior. General equilibrium analytical and simulation models of urban structure. Prereq: grad st; Econ 301(P).

713 Regional Economic Theory. 3 cr. G.
Location theory and land-use patterns, regional social accounts and input-output models, shift-share analysis, regional econometric model, and growth policies. Prereq: grad st; Econ 301(P); Econ 431(R).

731 Money, Income, and Prices. 3 cr. G.
Analysis of the demand for money by monetary theorists. Integration of theories into general equilibrium macro-models. Prereq: grad st; Econ 302(P). Econ 702(R).

734 (635) Foundation of Econometric Methods. 3 cr. G.
Statistical and econometric methods for econometrics research. Asymptotic theory; maximum likelihood, generalized method of moments estimation; classical linear regression model; non-linear and multivariate regression models. Prereq: grad st; Econ 431(P) & 506(P).

735 Econometric Methods I. 3 cr. G.
Review of statistical inference, asymptotic distribution theory, multivariate regression model and its extension, and use of prior information; estimation and testing of econometric models. Prereq: grad st; Econ 734(635)(P) or cons instr.

747 Public Finance I. 3 cr. G.
Topics in efficiency and allocation; theory of public expenditure and taxation, tax incidence analysis, public choice theory, fiscal federalism. Prereq: grad st; Econ 701(C).

748 Public Finance II. 3 cr. G.
Topics in redistribution and stabilization: public expenditure analysis, fiscal theory and stabilization policy, distribution of income and wealth, cost benefit analysis. Prereq: grad st; Econ 701(C).

749 Urban Public Finance. 3 cr. G.
Analysis of state and local government expenditures and revenues; demand for urban services, costs of supplying them, and methods of financing them. Prereq: grad st; Econ 301(P).

751 Labor Economics I. 3 cr. G.
Human capital investments: determinants of earnings (education, experience, incentives, discrimination, unions, compensating differentials); public sector labor markets; issues of retirement and aging. Prereq: grad st; Econ 701(C).

752 Labor Economics II. 3 cr. G.
Income distribution and inequality; migration and immigration; fertility, family structure, human capital and labor supply; unemployment and job search; selection bias; specialization and work organization. Prereq: grad st; Econ 701(C).

753 Collective Bargaining. 3 cr. G.
Economic and behavioral theories of collective bargaining, bargaining structure, impasses and truces, union effects, management goals, terms of the agreement and national policy. May not be substituted for Econ 751 or 752 in meeting the concentration req of the Econ MA Non-thesis option or in preparing for Ph D prelims. Prereq: grad st; Ind Rel 701(R).

754 Worker Participation. 3 cr. G.
Analyzes worker participation programs using history, economic and industrial relations theories, and empirical research and case studies. Jointly offered w/& counts as repeat of Ind Rel 754. Prereq: grad st; Econ 451(P) or cons instr.

755 Comparative Labor Markets and Employment Relations. 3 cr. G.
Labor market institutions, practices and performance. The U.S. is compared with western europe, japan and elsewhere. May not substitute for Econ 751 or 752. Prereq: grad st; Econ 210(P) & 415(451)(P) or cons instr.

774 Economic Development - Theory. 3 cr. G.
Theories relating to production, distribution, and capital formation in less-developed nations. Prereq: grad st; Econ 301(P) & 302(P).

775 Economic Development - Policy. 3 cr. G.
Planning, case studies, and empirical analysis of less-developed nations. Prereq: grad st; Econ 301(P) & 302(P).

801 Advanced Microeconomic Theory I. 3 cr. G.
Decision-making under risk and over time, general equilibrium and welfare, market failure, and applications, including demand systems, household production, interpersonal economics, and hedonic pricing. Prereq: grad st; Econ 701(P) & 506(P). Econ 606(R).

802 Advanced Macroeconomic Theory I. 3 cr. G.
Money, credit, and governmental operations in aggregative analysis; critical study of some aggregative and analytical systems. Prereq: grad st; Econ 702(P).

803 Advanced Microeconomic Theory II. 3 cr. G.
Theory of the firm, imperfect competition, game theory, asymmetric information, transaction costs and applications including matching/search, factor markets, contract theory, mechanism design and specialization. Prereq: grad st; Econ 506 (P) & 701(P); Econ 606 (R).

804 Advanced Macroeconomic Theory II. 3 cr. G.
New growth theories, new Keynesian theories, role of information in macro models, and financial markets and macro economy. Prereq: grad st; Econ 802(P).

806 Mathematical Economics. 3 cr. G.
Applications of dynamic optimization technique to modern economic problems; optimal economic growth, optimal pricing, optimal stabilization policies, etc. Prereq: Econ 706(P).

831 Monetary Theory and Policy. 3 cr. G.
Study of money, credit, and liquidity as related to income, employment, and prices. Study of goals and effectiveness of monetary and banking policy. Prereq: grad st; Econ 701(P). Econ 702(C) or cons instr.

835 Econometric Methods II. 3 cr. G.
Identification problem, econometric model building, and simultaneous equation techniques such as two- and three-stage least squares and full- and limited-information maximum likelihood methods. Prereq: grad st; Econ 735(P).

871 The Pure Theory of International Trade. 3 cr. G.
Examines for both static and growing economies the impact of trade upon relative prices of goods and factors of production. Prereq: grad st; Econ 701(P).

872 Money in the International Economy. 3 cr. G.
Examines the theory and measurement of the balance of payments, appropriate policies for internal and external balance, the problems of making international payments and the issue of exchange rate flexibility. Prereq: Econ 702(P) & 576(P).

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

905 Seminar: Banking and Monetary Theory: (Subtitled). 3 cr. G.
Consideration of the relationship between monetary policy and short-run fluctuations and long-run economic trends. May be retaken with change in topic to 6 cr max. Prereq: grad st; Econ 831(P) or cons instr.

915 Seminar: Econometric Methods: 3 cr. G.
Selected advanced topics in econometric methods and their application to current economic problems. Retakable w/chg in topic to 6 cr max. Prereq: grad st; Econ 835(P).

931 Seminar: Regulated Industries: 3 cr. G.
Research in the field of public utilities and other regulated industries, with emphasis on changing the emerging transportation problems. Retakable w/chg in topic to 6 cr max. Prereq: grad st; Econ 701(P).

939 Seminar: Urban and Regional Economics: 3 cr. G.
Analysis of advanced topics in urban economics. Retakable w/chg in topic to 6 cr max. Prereq: grad st; Econ 712(P) & 713(P).

947 Seminar: Public Finance: 3 cr. G.
Advanced study of public finance problems and literature. Research. Retakable w/chg in topic to 6 cr max. Prereq: grad st; Econ 701(P) & 702(P).

955 Seminar: Labor Economics: 3 cr. G.
Analysis of recent research in labor economics, with emphasis on student preparation of a research paper in this area. Retakable w/chg in topic to 6 cr max. Prereq: grad st; Econ 855(P).

974 Seminar: Economic Development and Growth: (Subtitled). 3 cr. G.
Analysis of advanced topics relating to the process of economic development and theory of growth. Retakable w/chg in topic to 6 cr max. Prereq: grad st; Econ 774(P) & 775(P).

977 Seminar: International Economics: 3 cr. G.
Independent study in international trade and international finance. Retakable w/chg in topic to 6 cr max. Prereq: grad st; Econ 871(P) or cons instr.

990 Graduate Thesis. 1-3 cr. G.
Reserved for research in connection with doctoral thesis. Retakable as necessary to fulfill thesis requirements. Prereq: grad st; cons major prof.

991 Workshop in Economic Research: (Subtitled). 2-3 cr. G.
Individual research and group discussion of selected problems in economic theory and its applications. Retakable with change in topic to 9 cr max. Prereq: grad st & cons instr.

999 Independent Work. 1-3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

EDUCATIONAL PSYCHOLOGY

- Phone: (414) 229-4767
- Fax: (414) 229-4939
- E-mail: edpsych@soe.uwm.edu

School/College: School of Education

Degrees Conferred:

- MS in Educational Psychology
- EdS in School Psychology
- PhD in Educational Psychology

Overview

The Department of Educational Psychology resides in the School of Education at the University of Wisconsin-Milwaukee and prepares graduate students for a variety of clinical, research, and teaching professions at the master's or doctoral level.

The Master of Science in Educational Psychology is designed to serve those who want to increase their understanding of human behavior from conception through adulthood, research and evaluation of learning, and teaching in informal and formal educational settings. The program permits concentrations in School Counseling, Community Counseling, School Psychology, Human Development and Learning, and Research and Evaluation. The Department also offers certification sequences to qualify students as school psychologists and school counselors.

The goal of the Doctor of Philosophy in Educational Psychology is to prepare psychologists, researchers and educational professionals to effectively work on the unique challenges of promoting education, learning, and mental health in urban environments. The four areas of emphasis in the doctoral program are Counseling Psychology, Learning and Development, Research Methodology, and School Psychology.

The Counseling Psychology and School Psychology specializations at the master's and doctoral level are accredited by the American Psychological Association (APA).

Graduate Faculty

Professors

Corrigan, Roberta, Ph.D., University of Denver
Fouad, Nadya, Ph.D., University of Minnesota
Santiago - Rivera, Azara, Ph.D., Wayne State University
Sapp, Marty, Ed.D., University of Cincinnati
Stoiber, Karen, Ph.D., University of Wisconsin-Milwaukee

Associate Professors

Azen, Razia, Ph.D., University of Illinois, Urbana-Champaign
Hains, Anthony, Ph.D., University of Notre Dame, Chair
Lamborn, Susie, Ph.D., University of Denver
Surber, John, Ph.D., University of Illinois
Walker, Cindy, Ph.D., University of Illinois, Urbana - Champaign
Wester, Stephen, Ph.D., University of Florida

Assistant Professors

Baskin, Thomas, Ph.D., University of Wisconsin - Madison
Cleary, Timothy, Ph.D., City University of New York
Jang, Hyungshim, Ph.D., University of Iowa
Korell, Shannon, Ph.D., Pennsylvania State University
Luo, Wen, Ph.D., Texas A&M University
Renard, Deborah E., Ph.D., Western Michigan University
Toro Martell, Sandra, Ph.D., University of Washington
Zhang, Bo, Ph.D., University of Pittsburgh

Master of Science in Educational Psychology

Application

Applicants should indicate the concentration for which they wish to be considered on their application

- Community Counseling
- Learning & Development
- Research & Evaluation
- School Counseling
- School Psychology

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program

1. An undergraduate GPA of 3.00.
2. At least 18 undergraduate credits in education or related social sciences. Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses. The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.
3. Applicants who have a GPA lower than 3.00 but above 2.5 may be recommended for probationary admission with appropriate supporting documentation.
4. Personal interviews may be required prior to admission.
5. Applicants for programs in counseling, research and evaluation, and school psychology are required to submit three letters of recommendation.
6. Initial advisor assignment will be made by the area chair of the concentration to which the applicant has applied.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at time of admission should immediately contact the Department Chair.

Credits and Courses

Each concentration has unique requirements; the student should consult the descriptions of each concentration to determine specific requirements. Descriptions are available from the Department.

Students seeking an emphasis in counseling are required to complete 48 credits.

Thesis

Optional. Up to 6 degree credits may be awarded for thesis research.

Comprehensive Examination

The student who writes a thesis must pass a final oral examination in defense of that thesis. The student who does not write a thesis must pass a final oral or written comprehensive examination.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Community Counseling and School Counseling

The counseling program in the Department of Educational Psychology offers two distinct concentration areas: Community Counseling and School Counseling. Given UWM's location in the largest urban area in Wisconsin, the counseling faculty is committed to training multiculturally competent community counselors and school counselors to serve clients in urban environments. Both concentrations share a core preparation in the areas of counseling and educational psychology. As students make progress in their program of studies, their focus will take on a more specialized training with content specific courses and field placements where they will refine their counseling skills in practical settings.

The concentrations train counselors to work with a diverse group of clients in urban settings and to deliver services in an ethical manner, as outlined by professional codes of conduct. They share in common courses comprising an Educational Psychology core of studies, a general Counseling core of studies, and a Concentration core. The Educational Psychology core provides knowledge for understanding research and professional scholarship, techniques of educational and psychological measurement, and typical human growth and development across the life-span. The Counseling core courses provide training in basic helping processes and relationships, career development, social and diversity issues in counseling, group work, appraisal of client issues, counseling theory, and the role of family systems. The Concentration core provides training in advanced strategies for helping clients change, and opportunities for increasing competency with specific populations through field placement. Fieldwork in Counseling and Supervised Practicum in Counseling involve the refinement of more advanced and sophisticated counseling skills in placements in actual counseling settings. Students are required to spend 20 hours each week during the semester at their placement site (an exception to this hour requirement is described below for students interested in seeking experience in dual concentrations). Each concentration requires 48 credits.

Community Counseling

The Community Counseling concentration prepares students for work in a variety of community settings such as mental health clinics, community agencies, counseling centers, colleges and universities, and business and industry. Students arrange their program of studies in consultation with their advisors so that the 48 credits earned toward a master's degree will meet selected state certification requirements.

School Counseling

The School Counseling concentration prepares students to work as school counselors. The program is approved by the Wisconsin Department of Public Instruction. Students are trained to apply the principles of learning, human development, counseling, and research and measurement within the schools. Preparation is designed to enable students to deliver school counseling programs and services to schools and the community. Students arrange their program of studies in consultation with their advisors so that the 48 credits earned toward a master's degree also will satisfy Wisconsin State Certification requirements. Certification is available as a K-12 School Counselor and as a Bilingual Counselor.

The School Counseling Certification program is for students who already possess a master's degree. Certification students are admitted to the school counseling certification and enroll as non-degree candidates. They need to meet the requirements for school counselor certification, which are generally fewer than the credits required for the M.S. Final selection of courses is determined by consultation with an advisor. Certification is available as a K-12 School Counselor and as a Bilingual Counselor. The requirements for this certification program meet the certification standards of the Wisconsin Department of Public Instruction.

Admission

Admission to the master's concentrations in counseling takes place once a year. Deadline date for department receipt of completed applications is March 1 for Fall admission.

If you are interested in applying to one of the master's concentrations in counseling, please contact the Department of Educational Psychology (edpsydept@uwm.edu)and request a complete counseling information packet. This packet contains a student handbook that describes the program in detail and a description of application and admission procedures.

Students who seek admission to the Community or School Counseling concentrations within the counseling area must apply through the Graduate School for admission to the Department of Educational Psychology. Please note that Graduate School deadlines are earlier because they receive, evaluate, and send completed graduate school applications to the Department. Upon admission, the student is assigned to a faculty member of the Department of Educational Psychology-Counseling Area who shall serve as the student's advisor.

The Counseling Area follows the admissions requirements of the Graduate School and the Department of Educational Psychology.

Credits and Courses

Educational Psychology Core, 9 cr
- Ed Psy 624 Educational Statistics I
- Ed Psy 640 Human Development: Theory and Research
- Ed Psy 720 Techniques of Educational and Psychological Measurement

Counseling Core, 21 cr
- Couns 710 Counseling: Theories and Issues
- Couns 711 Foundations of Career Development
- Couns 714 Essentials of Counseling Practice
- Couns 715 Multicultural Counseling
- Couns 800 Group Counseling Theory
- Couns 820 Counseling Appraisal and Clinical Decision-making
- Couns 904 Family systems: Theory, Research, and Practice

For Community Counseling
- Couns 600 Introduction to Community Counseling
- Couns 775 Supervised Practicum 1 in Community Counseling
- Couns 812 Clinical Studies in Counseling
- Couns 970 Supervised Practicum 2 in Community Counseling
- Electives, 6 cr

For School Counseling
- Couns 602 Introduction to School Counseling
- Couns 774 Supervised Practicum 1 in Rehabilitation Counseling
- Couns 810 Counseling in the Schools
- Couns 816 Counseling Children and Adolescents
- Couns 968 Supervised Practicum 2 in School Counseling
- Elective, 3 cr (Note: ExcEduc 600, Survey of Exceptional Education, is required for non-teachers in place of the elective)

In addition to the courses listed above, students must complete a comprehensive examination, a master's paper, or a thesis (no more than three thesis credits to apply towards the degree).

Learning & Development

The Learning and Development concentration provides students with the psychological foundations of education. The program emphasizes the perspective of the learner and concentrates on the following content areas: cognition, development, and social. The program focuses on research skills as they apply to education and training, throughout the lifespan, in a broad range of settings.

Requirements

Students are required to complete 30 credits for the master's degree. Students complete 9 credits of core courses, 15 credits of a concentration, and 6 elective credits. Students' programs of studies are developed in consultation with their assigned advisor.

Research and Evaluation

The research and evaluation concentration is designed to provide students with the knowledge necessary to execute research and evaluate and critique existing research. Course work exposes students to the general principles of inferential statistics, research methodology and experimental design, psychometrics, and categorical and qualitative research methods.

Requirements

Students are required to complete 30 credits for the master's degree. Students complete 9 credits

of core courses, 15 credits in research and evaluation beyond Introductory Statistics, and 6 elective credits. Students' programs of studies are developed in consultation with their assigned advisor.

School Psychology

The School Psychology concentration incorporates the scientist-practitioner model and provides a concrete link between theory, research, and practice. The program prepares students for employment in school and mental health settings. Students are prepared to provide psychological services to children, adolescents, and families; to conduct research; and to empirically evaluate the efficacy of their psychoeducational interventions and assessment procedures.

The following degree options are available: Master of Science Degree in Educational Psychology with a concentration in School Psychology; Education Specialist Degree in School Psychology; and, a Ph.D. in Urban Education: Specialization in School Psychology. The Ph.D. Program is accredited by the American Psychological Association (APA) and the National Association of School Psychologists (NASP).

Credits and Courses

Master's Degree Requirements (30 credits minimum)

School Psychology Core, 12 credits
- Ed Psy 751 Professional and Historic Issues in School Psychology
- Ed Psy 752 Pediatric Psychopathology
- Ed Psy 755 Assessment and Intervention: School Age
- Ed Psy 851 Assessment and Intervention: Personality, Social and Emotional Functioning

Educational Methods and Intervention Strategies, 3 cr
- Ed Psy 760 Academic Intervention and Alternative Assessment

Educational Statistics and Measurement, 9 cr
- Ed Psy 624 Educational Statistical Methods I OR Ed Psy 724 Educational Statistical Methods II
- Ed Psy 720 Techniques of Educational & Psychological Measurement
- Ed Psy 728 Techniques of Educational Research

Human Development, 3 cr
- Ed Psy 640 Human Development: Theory and Research (or other course chosen in consultation with advisor)

Research, 3 cr
- Ed Psy 790 Research or Thesis

Master's Examination, or Thesis/Paper

Upon successful completion of 30 graduate credits, the student is eligible to become a candidate for the Master of Science in Educational Psychology. The master's degree is awarded pending successful completion of a master's thesis, paper, or comprehensive examination.

Education Specialist in School Psychology

Upon completion of the master's degree in Educational Psychology (i.e., 30 graduate credits and successful completion of the master's exam, paper or thesis), the student will be considered for the Education Specialist Degree program in School Psychology. The student must file an application for the Ed. S. with the Graduate School. Admission to the Ed. S. program is dependent upon recommendation of the student's advisor and final approval of the school psychology faculty. Decisions will be made on the basis of successful completion of master's degree requirements, a minimum of at least one "satisfactory" annual review, and adequate demonstration of knowledge through review of the student's progressive portfolio (see the School Psychology Student Handbook for these evaluations).

Students who are not recommended for admission into the Education Specialist Degree program are not eligible for school psychology certification through UWM.

Credits and Courses

Education Specialist Degree (Ed. S.) (39 credits minimum)

Advanced Professional and Clinical Practice, 24 cr
- Ed Psy 732 Cognitive Behavioral Intervention Strategies in Education
- Ed Psy 952 Pediatric Psychology in an Urban Setting
- Ed Psy 955 Advanced Therapeutic Interventions
- Ed Psy 974 Beg. Practicum in School Psychology (3 credits)
- Ed Psy 975 Adv. Practicum in School Psychology (6 credits)
- Ed Psy 976 MS Internship in School Psychology (6 credits)

School Psychology Electives, 6 cr
- Ed Psy 579 Current Topics in Educational Psychology (with appropriate topic)
- Ed Psy 589 Workshop in Educational Psychology
- Ed Psy 779 Current Topics in Educational Psychology (with appropriate topic)

Learning, 3 cr
- Ed Psy 631 Cognition: Learning, Problem Solving and Thinking (or other course chosen in consultation with advisor)

Educational Methods & Intervention Strategies, 6 cr
- Ed Psy 852 Social, Psychological, Biological Basis of Learning Disorders
- Couns 805 Consultation Strategies for Counselors and School Psychologists
- CurrIns 747 Diagnosis and Treatment of Reading Disability
- ExcEduc 715 Issues and Trends in Exceptional Education OR other course chosen in consultation with advisor

Education Specialist Final Project

Upon completion of all course work, including practicum, students will demonstrate their professional knowledge by completing a Education Specialist Final Project. The Final Project will demonstrate the student's knowledge and proficiency in a clinical area such as innovative assessment practices, consultation, psychosocial therapy, or behavioral/academic intervention planning. Students will demonstrate their knowledge and proficiency by successfully completing one of the following projects

- Produce a videotape showing a consultation session with a consultee
- Produce a videotape of a therapy session with a child or adolescent
- Develop a treatment manual for reducing psychosocial, behavioral or academic problems in children or adolescents
- Develop a parenting program for families with difficult or at-risk children
- Develop materials for an in-service program for teachers or parents (i.e., power point presentation, overheads, or manual)
- Develop a school-wide prevention program for at-risk students
- Develop an innovative assessment program for reducing academic, behavioral and/or psychosocial problems

The Education Specialist Final Projects are due at the end of the internship. Projects will be judged to be acceptable by the school psychology faculty in charge of the internship and the student's advisor. Recommendations for satisfactory completion of all of the Education Specialist degree requirements will be made by the student's advisor, and will be forwarded to the department chair.

Certification as a School Psychologist

Students completing the M.S. concentration and the Ed.S. in School Psychology are eligible for certification as a School Psychologist in the State of Wisconsin. School Psychologists are eligible and encouraged to obtain National Certification as a School Psychologist (NCSP) by taking the national certification examination.

Doctor of Philosophy in Educational Psychology

The goal of the Doctor of Philosophy in Educational Psychology is to prepare psychologists, researchers and educational professionals to effectively work on the unique challenges of promoting education, learning, and mental health in urban environments. The four areas of emphasis in the doctoral program are:

- Counseling Psychology
- Learning and Development
- Research Methodology
- School Psychology

See the Educational Psychology Web site for more information on these areas.

Admission

To be considered for admission to the program applicants must complete the Graduate School application, and satisfy all UWM Graduate School admission requirements in addition to the following program requirements:

- Submission of scores on the General Test portion of the Graduate Record Examination; test taken within last five years.
- Undergraduate GPA of at least 3.0; graduate GPA of at least 3.5 required.
- A letter outlining the applicant's academic and professional background, declaration of Area of Concentration (Counseling Psychology, Learning and Development, Research Methodology, or School Psychology) as well as specific research interests and goals for the Ph.D. program. This statement should be submitted to the Graduate School and must be complete and thorough as it provides information that is central to the admission decision. This letter will serve in lieu of the Graduate School's "Reasons for Graduate Study" statement.
- Three letters of recommendation from individuals familiar with the applicant's intellectual achievement and potential.
- Program application (Contact the Doctoral Coordinator, Educational Psychology, School of Education, P.O. Box 413, University of Wisconsin-Milwaukee, 53201 for application materials or aahains@uwm.edu, 414 229-5715.)

A master's degree is not required for admission. However, it is recommended that students seeking admission to the Learning and Development area have a master's degree in educational psychology that includes a thesis or master's paper derived from empirical research before admission. Students with a master's degree and no thesis or master's paper must complete an equivalency paper prior to taking their preliminary exams (see other requirements below).

Advising and the Major Professor

Upon admission to the doctoral program in Educational Psychology, students are assigned a temporary advisor in their area of emphasis (e.g., Counseling Psychology, Learning and Development, Research Methodology, or School Psychology). This person is available to discuss initial course selection and provide general advice about the program. After beginning the program and before filing a Student Academic Plan, students should seek a Major Professor. The permanent Major Professor may—but does not have to be—the same person who is the temporary advisor. Students must select an advisor in their area of emphasis. Selection of a Major Professor is by mutual consent between the student and the faculty member. Students should notify the Training Director within their emphasis when the Major Professor has been selected.

Residence

The student must meet minimum Graduate School residence requirements of one continuous academic year of full-time graduate studies at UWM. This can be satisfied by completing at least 8 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions. Residence credit cannot be earned at the master's level.

Program of Study

Core Educational Psychology Requirements:

All doctoral students are required to complete 36 core credits in the areas of Psychological Foundations, Urban Foundations, and Research Methods. In many cases, students entering with a Master's degree will have completed some of these courses. Courses taken during Master's preparation may be counted in meeting the core requirements.

Psychological Foundations Core: Students must take 12 credits minimum of psychological foundations (social, cognitive, affective, or biological basis of behavior); students without Ed Psy 631 and Ed Psy 640 must take these courses as part of their 12 credit minimum.

Urban Foundations Core: 9 credits minimum.

Research Methods Core: 15 credits

All doctoral students must show documentation that they have acquired research skills needed for dissertation work. To fulfill this requirement students must successfully complete 13 credits of coursework in the area of research methods at the 700 level or above, including Ed Psy 724 and six credits at the 800 level or above. Students should consult the specific requirements for their area of specialization for additional requirements, as the requirements for each area of specialization may exceed those specified here.

Psychological Foundations Core (12 credits from the following courses):

- Ed Psy 631 Cognition: Learning, Problem Solving and Thinking*
- Ed Psy 640 Human Development: Theory and Research*
- Ed Psy 734 Contexual Determinants of Motivation
- Ed Psy 735 Social Cognition in Educational Psychology
- Ed Psy 741 Cognitive Development
- Ed Psy 742 Personality Theories and the Educational Process
- Ed Psy 743 Human Development: Study of Infancy and Early Childhood
- Ed Psy 746 Human Development: Study of the Adolescent
- Ed Psy 747 Human Development: Study of the Adult
- Ed Psy 748 Psychology of the Immigrant Child.
- Ed Psy 831 Cognition: Theory and Research
- Ed Psy 833 Psychology of Race and Ethnicity
- Ed Psy 834 The Psychology of Achievement Motivation
- Ed Psy 844 The Multicultural Family
- Ed Psy 845 Immigrant Child in Developmental Perspective
- * Required of all Students

Urban Foundations Core (9 credits):

- Educ 701 Urban Education Issues*
- Ed Psy 801 Urban Education: Doctoral Seminar in Educational Psychology*
- Educ 901 Advanced Seminar in Urban Education*
- * Required of all Students

Research Core (15 credits from the following courses):

- Ed Psy 624 Educational Statistical Methods I*
- Ed Psy 626 Workshop in the Computerized Analysis of Educational Data*
- Ed Psy 724 Educational Statistical Methods II*
- Ed Psy 720 Techniques of Educational and Psychological Measurement

Ed Psy 728 Techniques of Educational Research

- Ed Psy 820 Multiple Regression and Other General Linear Models
- Ed Psy 821 Psychometric Theory and Practice
- Ed Psy 822 Modern Test Theory
- Ed Psy 823 Structural Equation Modeling

- Ed Psy 824 Advanced Experimental Design and Analysis
- Ed Psy 825 Multivariate Methods
- Ed Psy 826 Analysis of Cross-Classified Categorical Data
- Ed Psy 827 Survey Research Methods in Education
- Ed Psy 829 Instrument Development
- Ed Psy 922 Seminar in Measurement and Evaluation
- Ed Psy 929 Seminar in Statistics and Research Design
- Ad Ldsp 729 Qualitative Research Methodology
- * Required of all Students
- Core Concentration Requirements
- All students must complete core courses in their area of concentration. Minimum credit requirements vary with the area of concentration due to accreditation and certification requirements.

Counseling Psychology Concentration (18 credits):

- Couns 830 Proseminar in Counseling Psychology 1: Overview and Appraisal*
- Couns 831 Proseminar in Counseling Psychology 2: Cog-Behv Therapies & Voc Psych *
- Couns 840 Proseminar in Counseling Psychology 3: Interventions*
- Couns 841 Proseminar in Counseling Psychology 4: Assessment *
- Couns 850 Proseminar in Counseling Psychology 5: Supervision *
- Couns 860 Proseminar in Counseling Psychology 6: Research*
- required within concentration
- *See* Counseling Psychology *for more information*

Learning/Development Concentration (15 credits from the following courses):

- Ed Psy 734 Contexual Determinants of Motivation
- Ed Psy 735 Social Cognition in Educational Psychology
- Ed Psy 741 Cognitive Development
- Ed Psy 742 Personality Theories and the Educational Process
- Ed Psy 743 Human Development: Study of Infancy and Early Childhood
- Ed Psy 745 Human Development: Study of Middle Childhood
- Ed Psy 746 Human Development: Study of the Adolescent
- Ed Psy 747 Human Development: Study of the Adult
- Ed Psy 831 Cognition: Theory and Research
- Ed Psy 833 Psychology of Race and Ethnicity
- Ed Psy 834 The Psychology of Achievement Motivation
- Ed Psy 844 The Multicultural Family
- Ed Psy 845 Immigrant Child in Developmental Perspective
- *See* Learning and Development *for more information*

Research Methodology Concentration (24 credits from the following courses):

- Ed Psy 720 Techniques of Educational and Psychological Measurement
- Ed Psy 728 Techniques of Educational Research
- Ed Psy 820 Multiple Regression Analysis
- Ed Psy 821 Psychometric Theory and Practice
- Ed Psy 822 Modern Test Theory
- Ed Psy 824 Advanced Experimental Design and Analysis
- Ed Psy 825 Multivariate Methods
- Ed Psy 823 Structural Equation Modeling
- Ed Psy 826 Analysis of Cross-Classified Categorical Data
- Ed Psy 827 Survey Research Methods in Education
- Ed Psy 829 Instrument Development
- Ed Psy 922 Seminar in Measurement and Evaluation
- Ed Psy 929 Seminar in Statistics and Research Design
- *See* Research Methodology *for more information*

School Psychology Concentration (30 credits †):

- Ed Psy 732 Cognitive Behavioral Intervention Strategies in Education *
- Couns 805 Consultation Strategies for Counselors and School Psychologists *
- Ed Psy 852 Assessment and Interventions: Personality, Social and Emotional Functioning *
- Ed Psy 853 Social, Psychological, and Biological Basis of Learning Disorders *
- Ed Psy 952 Pediatric Psychology in Urban Settings *
- Ed Psy 955 Advanced Therapeutic Interventions *
- Ed Psy 960 Evidence-Based Practices in School Psychology: Prevention & Intervention *
- Ed Psy 959 Seminar in School Psychology*
- † Students in the School Psychology concentration must also complete 6 credits in Educational Interventions in order to meet certification requirements

  * required within concentration

  See School Psychology *for more information*

Other Requirements

In addition to the requirements listed below, please refer to the program handbook for each concentration.

Students Entering Without a Master's

For the Counseling Psychology concentration, students entering without a Master's degree in Counseling must also complete Couns 710, 711, 714, 715, 800 and 970 in order to meet accreditation/certification requirements.

In the School Psychology concentration, students entering without a master's degree in School Psychology must complete Ed Psy 751, 752, 755, 760, and 851.

Practicum

Students in the Counseling Psychology and School Psychology concentrations are required to complete practicum requirements to become licensed.

Internship

Following Practicum, students in the Counseling Psychology and School Psychology concentrations are required to complete a year-long internship in order to be licensed.

Publishable Paper

Students are required to work with faculty to have a "publishable" paper within 30 credits of admission to the doctoral program. This may be their master's theses and/or master's papers, where original research is generated or a critical review of research is developed. It may also be a collaborative effort, such as publishing a chapter or article with a faculty advisor or other faculty collaborator.

Minor

Students are required to complete a minor consisting of either a) 9 credits from a single department outside of the school of education or b) 12 credits from two departments, one of which must be outside of the School of Education. Students with a concentration in Counseling Psychology or School Psychology must complete 9 credits in the Department of Psychology.

Doctoral Preliminary Examination

The Doctoral Preliminary Examination is taken at the end of a student's coursework. The examination consists of a written and oral portion. Its purpose is to indicate to the Doctoral Committee whether the student demonstrates mastery of coursework and relevant subject matter and whether the student is qualified to proceed with dissertation planning.

Questions will cover the following four areas, though sometimes are combined in specific questions:

- the urban knowledge base
- the area of emphasis
- research methods
- the minor

Following the completion of the written portion of the exam, the committee will schedule an oral examination. The purpose of the oral examination is to provide the members of the committee an opportunity to more fully explore the student's responses to the written examination, and to determine the student's understanding of coursework and related bodies of knowledge that are necessary for the student's area of study and for the successful completion of the dissertation. A minimum of four members of the committee shall be in attendance at the oral examination.

Proposal Hearing

A doctoral student qualifies as a "doctoral candidate" upon completion of the doctoral Student Academic Plan, successful completion of the Doctoral Preliminary Examination for the Ph.D. degree, and successfully passing a dissertation proposal hearing. The hearing is open and the date, time and location must be announced by the Doctoral Coordinator. Each member of the committee must sign the doctoral dissertation proposal hearing form, and indicate approval or disapproval. A simple majority of all committee members is required. No absentee ballots are acceptable.

Dissertation Defense

The candidate must write a dissertation that demonstrates the ability to pursue independent research. The candidate must pass an oral exam in defense of the dissertation.

Exit Requirements

Contingent upon satisfactory completion of program requirements, passage of the preliminary qualifying examination, and successful oral defense of the dissertation, the Chair of the Department of Educational Psychology will give final approval of the Ph. D. in Educational Psychology.

Time Limit

It is expected that most students will complete all degree requirements within six years of initial enrollment in the doctoral program. All requirements MUST be completed within ten years from the date of initial enrollment.

Courses: Educational Psychology

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st, cons instr, acceptance for Study Abroad Prog.

529 Introduction to Program and Curriculum Evaluation. 3 cr. U/G.
Examinations of various models and approaches to program and curriculum evaluation. Application of the models to a variety of educational programs will be emphasized. Prereq: jr st.

530 Workshop in Computer Instruction in the Schools. 3 cr. U/G.
Examination, construction and evaluation of computer extended instruction. Emphasis on participant development of curriculum materials and instructional procedures centered on pupil development. Not open to students who have cr in CurrIns 530, which is identical to Ed Psy 530. Prereq: jr st.

550 Social and Affective Issues in Urban Classrooms. 3 cr. U/G.
Explore the social/emotional aspects of children's development as related to schooling and present a framework for creating conducive classroom learning environments. Prereq: jr st; admis to School of Educ.

551 Social and Affective Issues: Case-Based Problem-Solving. 1 cr. U/G.
Students will critique various strategies presented in Ed Psy 550 and engage in a problem-solving process focusing on social/emotional issues and classroom interventions. Prereq: jr st; Ed Psy 550(P).

575 Infant and Early Childhood Assessment. 3 cr. U/G.
Theoretical and applied aspects of early childhood assessment. Experience administering specific individual and group (screening) tests. Assessment of language, cognition, motor, adaptive behavior, developmental delay. Prereq: jr st or grad st.

579 Current Topics in Educational Psychology: (Subtitled). 1-3 cr. U/G.
Specific topic and prerequisites announced in Schedule of Classes each time course is offered. May be retaken with change in topic to max of 9 cr. Prereq: jr st.

589 Workshop in Educational Psychology: (Subtitled). 1-6 cr. U/G.
Educational psychological content adapted for a discreet group of students enrolled in a workshop conducted by the department of educational psychology. Prereq: jr st. Cons dept chair &/or workshop dir.

624 Educational Statistical Methods I. 3 cr. U/G.
Overview of common statistical techniques used in educational research, including univariate and bivariate descriptive statistics, chi square and linear regression. Prereq: jr st.

626 Workshop in the Computerized Analysis of Educational Data. 1 cr. U/G.
Workshop in designing, implementing and interpreting the computer analysis of survey, research or test-program type data using a popular comprehensive statistical analysis package. Prereq: jr st & prior or conc reg in applied statistics course. Additional work required for grad cr.

631 Cognition: Learning, Problem Solving and Thinking. 3 cr. U/G.
Overview of historical theories of learning and current theories of cognition. Emphasis on application to instruction, school subjects, workplace training, self-directed learning. Prereq: jr st.

633 Applications of Learning Theories to Computer-Based Instruction. 3 cr. U/G.
Strategies for applying selected learning theories and research findings to the development of instructional programs for computer applications in educational settings. Prereq: jr st; Ed Psy 330 & programming experience in basic or pascal.

640 Human Development: Theory and Research. 3 cr. U/G.
Survey of theory and research in human development from conception to death, emphasizing the child and adolescent periods of growth. Prereq: jr st.

642 Parenting: Educational and Psychological Influences on Parenthood. 3 cr. U/G.
The theoretical and empirical bases of parenthood will be critically examined as they pertain to relevant home and school practices. Prereq: jr st.

720 Techniques of Educational and Psychological Measurement. 3 cr. G.
Principles of measurement with major emphasis upon standardized instruments for measuring intelligence, achievement, aptitude, attitude, interest and personality. Prereq: Ed Psy 624(P) & grad st.

724 Educational Statistical Methods II. 3 cr. G.
Univariate analysis of variance, including one-way and n-way designs, repeated measures, and multiple comparisons. Prereq: grad st; Ed Psy 624(P), 626(C).

728 Techniques of Educational Research. 3 cr. G.
Study of major design and analysis strategies used in educational research with emphasis upon the critique of existing studies and the planning of future studies. Prereq: grad st & Ed Psy 624(P).

731 Cognition and the Design of Instruction. 3 cr. G.
Review of theories of human learning and cognition; emphasis on research on learning from text and the design of text and learning adjuncts. Prereq: grad st; Ed Psy 631(P) or equiv.

732 Cognitive Behavioral Intervention Strategies in Education. 3 cr. G.
Theory and application of effective behavioral treatments for children with adjustment problems in school. Emphasis on principles and techniques of cognitive and multimodal behavioral therapy. Prereq: grad st; cons instr.

733 Educational Applications of Social Psychology. 3 cr. G.
Implications of theory and research in socialization, attitude development and change, group processes, social perception and role behavior for classroom practices and teacher-student interaction. Prereq: grad st.

734 Contexual Determinants of Motivation. 3 cr. G.
Review of research concerning the effects of teacher expectations, school and classroom climate, and psycho-social variables on student motivation. Focus on problem-solving. Prereq: grad st.

735 Social Cognition in Educational Psychology. 3 cr. G.
Theory and research on basic cognitive elements and processes used in understanding the self and others with emphasis on applications in educational and counseling settings. Prereq: grad st; Ed Psy 631(P) or 640(P); or cons instr.

741 Cognitive Development. 3 cr. G.
Examination of theory and research in cognitive development and applications to developmental assessment and instruction. Prereq: grad st; Ed Psy 640(P) or equiv or cons instr.

742 Personality Theories and the Educational Process. 3 cr. G.
A study of the major theories of personality growth and development. An emphasis upon the application of the theories to the educational process. Prereq: grad st.

743 Human Development: Study of Infancy and Early Childhood. 3 cr. G.
Study of physical, intellectual, social and emotional development from birth to six years. Prereq: grad st, Ed Psy 640(P) or cons instr.

744 Problems in Parenting. 3 cr. G.
Examination of problems confronting parents in rearing children, exploration of research and educational practices applicable to their resolution. Prereq: grad st or cons instr. Ed Psy 642.

745 Human Development: Study of Middle Childhood. 3 cr. G.
Study of the physical, intellectual, social, and emotional development of children from 6-12 years of age. Prereq: grad st & Ed Psy 640(P) or equiv or cons instr.

746 Human Development: Study of the Adolescent. 3 cr. G.
Study of physical, intellectual, social and emotional development during adolescents. Prereq: grad st; Ed Psy 640(P) or cons instr.

747 Human Development: Study of the Adult. 3 cr. G.
Physical, social, affective and cognitive development which characterizes the period from young adulthood through aging. Prereq: grad st & Ed Psy 640(P) or equiv or cons instr.

751 Professional and Historical Issues in School Psychology. 3 cr. G.
Introduction to the practice of psychology in the schools. This course includes the history and systems of psychology, and professional practice issues. Prereq: grad st.

752 Pediatric Psychopathology. 3 cr. G.
Study of characteristics, definitions, developmental course, correlates, causes, contexts, and outcomes of psychopathology in children and adolescents. Explores interventions within a developmental systems perspective. Prereq: Ed Psy 755 or Couns 710 or equiv.

755 Assessment and Intervention: School Age. 3 cr. G.
Introduction to school psychology practices in assessment and intervention for school age students. Includes didactic and clinical experiences. Prereq: grad st; Ed Psy 720; cons instr.

756 Assessment and Intervention: Early Childhood. 3 cr. G.
Introduction to school psychology practices in assessment and intervention for early childhood children and families. Didactic and clinical experiences are included. Prereq: grad st; Ed Psy 755; cons instr.

760 Academic Intervention and Alternative Assessment. 3 cr. G.
Reviews and critiques major educational reforms in regular and exceptional education. Alternative assessment paradigms, context variables in classrooms, teacher-child interactions, and change strategies are examined. Prereq: grad st.

779 Current Topics in Educational Psychology: (Subtitled). 1-3 cr. G.
Specific topic and any additional prerequisites announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st.

790 Research or Thesis. 1-3 cr. G.
Master's level course. Prereq: grad st & cons instr.

799 Independent Reading. 1-3 cr. G.
For benefit of superior graduate students unable to secure needed content in regular courses. Prereq: grad st; cons instr.

801 Urban Education: Doctoral Seminar in Educational Psychology. 3 cr. G.
Overview of theory and research in educational psychology with emphasis on problems and issues in urban settings. Prereq: grad st admis to urban educ doctoral prog; Educ 701.

820 Multiple Regression and Other General Linear Models. 3 cr. G.
General linear model with applications in the social sciences, including methods such as multiple regression analysis and the analysis of covariance. Prereq: grad st; Ed Psy 724(P) or cons instr.

821 Psychometric Theory and Practice. 3 cr. G.
Overview of psychometrics. Presents construction of educational and psychological test from the prespective of classical test theory and generalizability theory, with an introduction to item response theory. Prereq: grad st; Ed Psy 724(P) or equiv; Ed Psy 720(P) or equiv.

822 Modern Test Theory. 3 cr. G.
Foundations and practical applications of item response theory (IRT). Prereq: Grad St; Ed Psy 724(P) or cons instr.

823 Structural Equation Modeling. 3 cr. G.
Study of applied structural equation modeling including path analysis, confirmatory factor analysis and other latent variable models; exposure to computer programs used for model analysis. Prereq: Ed Psy 825 or equiv; cons instr.

824 Advanced Experimental Design and Analysis. 3 cr. G.
Advanced topics in the design and statistical analysis of experiments particularly as applied to educational settings. Lec; lab. Prereq: grad st; Ed Psy 724(P) or 626(P) or equiv computer proficiency.

825 Multivariate Methods. 3 cr. G.
Multivariate analysis methods such as multivariate analysis of variance, discriminant analysis, factor analysis and principal components analysis are considered in relation to each other; applications in the social sciences. Prereq: grad st; Ed Psy 724(P) or cons instr; Ed Psy 820(R).

826 Analysis of Cross-Classified Categorical Data. 3 cr. G.
Use of methods that include chi-square, log linear, and log multiplicative association models to analyze cross-classified categorical data; with application to the social sciences. Prereq: grad st; Ed Psy 724(P).

827 Survey Research Methods in Education. 3 cr. G.
Design and analysis of simple random, stratified, systematic, cluster, two-stage, and multi-stage survey sampling designs; randomized response; control of nonresponse; questionaire design. Prereq: grad st; Ed Psy 724(P).

828 Program Evaluation in Education. 3 cr. G.
An examination of the issues related to educational program evaluation; application of statistical and measurement methods to evaluation strategies and designs. Prereq: grad st; Ed Psy 724(P).

829 Instrument Development. 3 cr. G.
Students will develop an instrument to measure some psychological construct of research interest. Topics include construct development, test and item specifications, item writing, conducting reliability and validity studies. Prereq: grad st; Ed Psy 724(P).

831 Cognition: Theory and Research. 3 cr. G.
A detailed look at cognitive theory and research underlying learning and instruction. Aimed at students who expect to use some aspect of cognitive theory in

their research. Prereq: grad st; Ed Psy 631(P), 731(P) or course in human verbal learning.

833 Psychology of Race and Ethnicity. 3 cr. G.
Psychological research and theory concerning race, ethnicity and racial and ethnic relations in american society with applications to a variety of educational situations. Prereq: grad st.

834 The Psychology of Achievement Motivation. 3 cr. G.
Review of research on personality factors that influence achievement motivation. Designed for those interested in incorporating aspects of motivation theory into their research. Prereq: grad st; Ed Psy 734(P) or cons instr.

840 Theory and Issues in Human Development. 3 cr. G.
Study of theory, experimental design, and research in human development. Prereq: grad st; Ed Psy 640(P).

844 The Multicultural Family. 3 cr. G.
Course examines theory and research for studying development in the family context as it applies to ethnic minority groups in the u.s. Prereq: grad st; Ed Psy 640(P).

845 Immigrant Child in Developmental Perspective. 3 cr. G.
Examines immigrant children and families from a developmental perspective. Focus on current issues in theory and research on the study of immigrant children. Prereq: grad st; Ed Psy 640 (P)

850 Objective Personality Assessment. 3 cr. G.
Objective diagnostic techniques used in the personality assessment of school-age populations. Prereq: grad st, Ed Psy 755 & 756. Course in behavior disorders of children or in abnormal psychology recom.

851 Assessment and Interventions: Personality, Social and Emotional Functioning. 3 cr. G.
Introduction to school psychology practices of assessment and interventions for psychological, social, and emotional functioning of children and adolescents. Didactic and clinical experiences included. Prereq: Ed Psy 742 & 752; writ cons instr.

852 Social, Psychological, and Biological Basis of Learning Disorders. 3 cr. G.
Current assessment and intervention in the approaches to learning and emotional difficulties. Includes social, psychological, cultural, educational, and biological factors affecting children and adolescents. Prereq: grad st; Ed Psy 751 or Couns 710 or equiv.

853 Biological Basis of Childhood Disorders. 3 cr. G.
Current theory, research, and clinical findings in the biological basis of childhood disorders. Neurodevelopmental assessment and implications for intervention with cognitive behavioral, and psychosocial disorders. Prereq: grad st; Ed Psy 755 or cons instr.

871 Fieldwork in Child Development. 3-6 cr. G.
- Prereq: grad st; major Ed Psy; cons instr.

879 Current Topics in Educational Psychology: (Subtitled). 1-3 cr. G.
Specific topic announced in schedule of classes each time course is offered; any additional prerequistites are included in announcement. May be repeated with change in topic to max of 9 cr. Prereq: grad st.

880 Proseminar in Urban Education: Educational Psychology. 2 cr. G.
An examination of selected problems and issues in urban education. Prereq: grad st; admis to urban educ doctoral prog.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

922 Seminar in Measurement and Evaluation: (Subtitled). 3 cr. G.
Specific topic and any additional prerequisites are announced in Timetable each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st & cons instr.

929 Seminar in Statistics and Research Design. 3 cr. G.
Specific topic and any prerequisites announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st; cons instr.

939 Seminar in Human Learning. 3 cr. G.
Specific topic and any additional prerequisites announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st; cons instr.

949 Seminar in Human Development: (Subtitled). 3 cr. G.
Specific topic and any additional prerequisites announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st; cons instr.

952 Pediatric Psychology in Urban Settings. 3 cr. G.
Theory, research and clinical practice addressing the mental health needs of children in urban settings. Risk and protective factors are explored within a resiliency framework. Prereq: Ed Psy 752(R), Ed Psy 755(R) or cons instr.

955 Advanced Therapeutic Interventions. 3 cr. G.
Develop theoretical understanding and competencies related to advance-level prevention and intervention work, including group prevention and intervention and family intervention. Prereq: grad st, writ cons instr, Ed Psy 732 or equiv.

959 Seminar in School Psychology: (Subtitled). 3 cr. G.
Specific topic and any additional prerequisites announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st; cons instr.

960 Evidence-Based Practices in School Psychology: Prevention & Intervention. 3 cr. G.
Evidence-based practices for school psychologists and other professionals working in school and clinic settings. Prereq: grad st.

974 Beginning Practicum in School Psychology. 1-3 cr. G.
Supervised practice in schools, clinics or institutions. Practical experience in administration and interpretation of psychological tests, preparation of case reports and staffing of cases under supervision. Prereq: grad st; enrollment in School Psych prog; cons instr.

975 Advanced Practicum in School Psychology. 3-9 cr. G.
Advanced psycho-diagnostic practice in schools, clinics or institutions under supervision of a psychologist. Prereq: grad st; Ed Psy 974; writ cons instr.

976 MS Internship in School Psychology. 1-6 cr. G.
Provides opportunity for masters students to acquire advanced clinical skills in consultation, interventions, and psychological assessment. Supervised experiences in schools. Prereq: grad st; completion of all course requirements for School Psychology certification; writ cons instr.

977 Advanced Child and Adolescent Therapy Practicum. 3 cr. G.
Design, implementation, and evaluation of therapeutic interventions with the goal of improving the adjustment and functioning of youth and their families. Prereq: grad st; Ed Psy 732 or equiv.

986 Doctoral Internship in School Psychology. 3-6 cr. G.
Provides opportunity for doctoral students to acquire advanced clinical skills in consultation, intervention, and assessment practices. Supervised experiences in school, mental health, and medical setting. Prereq: grad st; writ cons instr; admis to Urban Educ doctoral prog & identification of specific specialization.

990 Research or Thesis. 1-3 cr. G.
- Prereq: grad st; cons instr.

999 Independent Reading. 1-3 cr. G.
For doctoral students unable to secure needed content in regular courses. Prereq: grad st; cons instr.

Courses: Counseling

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined

and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st, cons instr, acceptance for Study Abroad Prog.

579 Current Topics in Counseling: (Subtitled). 1-3 cr. U/G.
Specific topic and prerequisites announced in Schedule of Classes each time course is offered. May be retaken with change in topic to max of 9 cr. Prereq: jr st

589 Workshop in Counseling/Rehabilitation Counseling: (Subtitled). 1-6 cr. U/G.
Content to be adopted for students interested in counseling/rehabilitation emphases. Specific topic and any additional prerequisites announced in Schedule of Classes each time course is offered. May be retaken with change in topic to max of 6 cr for MS degree. Prereq: jr st; cons instr

600 Introduction to Community Counseling. 3 cr. U/G.
Survey of history of counseling; systems of counseling; credentialing in community counseling, counseling techniques; behavior modification and behavioral counseling; group processes in counseling. Prereq: jr st.

601 Introduction to Rehabilitation Counseling. 3 cr. U/G.
History, philosophy, legislation, organizational structure, legal and ethical aspects, attitudinal and environmental issues as related to vocational and independent living rehabilitation. Prereq: jr st.

602 Introduction to School Counseling. 3 cr. U/G.
Survey of history of school counseling, counseling techniques, systems of counseling, group counseling in schools. Prereq: jr st

670 Fieldwork in Rehabilitation Counseling. 3 cr. U/G.
Practical experience in agencies which employ rehabilitation counseling personnel; participation required in scheduled seminars on current issues and trends and the utilization of community resources. May be retaken to max of 6 cr. Prereq: jr st; cons instr & agency repres

701 (606) Psychosocial Aspects of Disability in Rehabilitation Counseling. 3 cr. G.
Psychological adjustment to disabling conditions by clients and families; case management practices with non-physical disabilities; substance abuse among persons with disabilities. Prereq: grad st; Couns 601(C)

702 (605) Medical Aspects of Disability in Rehabilitation Counseling. 3 cr. G.
Medical and case management practices with common physically disabling conditions with emphasis on functional capacities and appropriate intervention resources (e.g., assistive technology). Prereq: grad st; Couns 601(C).

703 (607) Vocational Aspects in Rehabilitation and Exceptional Education. 3 cr. G.
Disability and case management practices for severely disabled persons. Emphasis on return to work interventions: vocational evaluation, work adjustment, job placement, accomodation, ergonomics. Jointly offered with & counts as repeat of ExcEduc 703. Prereq: grad st; Couns 601(C) or ExcEduc 679(P).

710 Counseling: Theory and Issues. 3 cr. G.
Counseling theories and issues, associated research, and application of theory to counseling practice. Prereq: grad st; course in learning, human development &/or personality theory.

711 Foundations in Career Development. 3 cr. G.
Educational, psychological, and sociological bases for career development; evolution of career development research; consideration and application of educational-occupational-social information through individual and group counseling approaches. Prereq: grad st.

714 Essentials of Counseling Practice. 3 cr. G.
Experience and practice in basic counseling skills related to the helping process. Analysis of barriers and hazards in the counseling process. Prereq: grad st.

715 Multicultural Counseling. 3 cr. G.
Understanding the impact of culture on behavior and how to use that knowledge to increase effectiveness in counseling individuals from other cultures. Prereq: grad st; Couns 714(C).

719 Rehabilitation Research. 3 cr. G.
Practice in consuming, evaluating and utilizing research resources; application of research to practice; review of current research issues; final examination is m.s. comprehensive examination. Prereq: 27 grad cr; rehab couns major or cons instr; Ed Psy 624

774 Supervised Practicum 1 in School Counseling. 3 cr. G.
Practical, intensive and continuous experience in school settings that utilize counseling personnel. Retakable to 9 cr max. Sat/Unsat grade only. Prereq: grad st; field placement; Couns 710(P) & 714(P); cons instr; competency requirement.

775 Supervised Practicum 1 in Community Counseling. 3 cr. G.
Practical, intensive, and continuous experience in community settings working with professional counseling personnel. Retakable to 9 cr max. Sat/Unsat grade only. Prereq: grad st; field placement; Couns 710(P) & 714(P); cons instr; competency requirement.

776 Supervised Practicum 1 in Rehabilitation Counseling. 3 cr. G.
Practical, intensive, and continuous experience in settings that utilize rehabilitation counseling personnel. Retakable to 9 cr max. Sat/Unsat grade only. Prereq: grad st; field placement; Couns 710(P) & 714(P); cons instr; competency requirement.

778 Current Topics in Rehabilitation Counseling: (Subtitled). 1-3 cr. G.
Current problems, issues, research, and practices in rehabilitation counseling. Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. May be repeated with change in topic to max of 6 cr for ms degree. Prereq: grad st; cons instr

779 Current Topics in Counseling: (Subtitled). 1-3 cr. G.
Specific topic and prerequisites announced in schedule of classes each time course is offered. Retakeable with change in topic to max of 9 cr. Prereq: grad st.

790 Research or Thesis. 1-3 cr. G.
For graduate students needing to complete master's paper. Prereq: grad st (master's level in Couns/Rehab Couns); cons instr.

799 Independent Reading. 1-3 cr. G.
For the benefit of graduate students unable to secure needed content in regular courses. Prereq: grad st; cons instr.

800 Group Counseling Theory. 3 cr. G.
Theories of groups, group counseling strategies, group structure, latent structural analysis, and educational methodologies. Prereq: grad st; Couns 710 & 714.

802 Advanced Group Counseling. 3 cr. G.
Familiarization with complex group dynamics and process observational skills. Prereq: grad st; Couns 800

803 Vocational Psychology. 3 cr. G.
Vocational theories and research; understanding of individual in relation to world of work; understanding of role of assessment in vocational counseling; multicultural vocational research and counseling. Prereq: grad st; Ed Psy 720; Couns 711 or equiv; Couns 714

805 Consultation Strategies for Counselors and School Psychologists. 3 cr. G.
Analysis of consultation models; investigation of intervention strategies; and evaluation of the consultation process. Prereq: 21 grad crs in Ed Psy &/or Couns.

807 Advanced Counseling Strategies: (Subtitled). 1-3 cr. G.
Variable content lecture-laboratory class. This course provides an in-depth view of counseling strategies based on the precepts of a particular theoretical model. Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Prereq: grad st; Couns 714

810 Counseling in the Schools. 3 cr. G.
Exploration of counseling functions in schools. The rationale, scope and nature of school counseling. Theories, techniques and principles of counseling process are emphasized. Prereq: grad st; Couns 710 & 714.

812 Clinical Studies in Counseling. 3 cr. G.
Problem behaviors that clients bring to the counseling situation; stypical behaviors; techniques by which counselors deal with those behaviors. Emphasis on case material. Prereq: grad st; Couns 710 & 714.

814 Professional, Ethical and Legal Issues in Counseling Psychology. 3 cr. G.
Examination of professional, legal and ethical issues affecting the practice of counseling psychology. Introduction to the scientist-practitioner model and the profession of counseling psychology. Prereq: grad st; 21 crs in Couns or equiv.

815 Advanced Multicultural Counseling. 3 cr. G.
Multicultural counseling models and related strategies for professionals working in multicultural educational and community settings. Prereq: grad st; Couns 714; Couns 715; Couns 774

816 Counseling Children and Adolescents. 3 cr. G.
This course will describe various counseling issues and strategies applicable to working with children and adolescents in both school and community settings. Prereq: grad st.

819 Group Assessment for Adults. 3 cr. G.
This course is designed to prepare students in adult group assessment. Students will become familiar with instruments used in personality, vocational, and interest assessment. Prereq: grad st; Ed Psy 624; Ed Psy 720

820 Counseling Appraisal and Clinical Decision-Making. 3 cr. G.
Course will integrate science of psychology with counseling practice in order to promote development of advanced interviewing skills and intake reporting. Prereq: grad st; Couns 710(P).

830 Proseminar 1: Introduction to Counseling Psychology; Multiculturalism. 3 cr. G.
Introduction to the profession; multicultural counseling and APA's code of ethics covered in depth. Prereq: grad st, cons instr

831 Proseminar 2: Psychotherapy Interventions. 3 cr. G.
Psychotherapy models and associated techniques. Prereq: grad st; cons instr

840 Proseminar 3: Psychological Assessment. 3 cr. G.
Use of psychological assessment in counseling psychology practice. Prereq: grad st; cons instr

841 Proseminar 4: Vocational Psychology; Social Justice. 3 cr. G.
Advanced vocational psychology including career theory, career counseling, and social justice. Prereq: grad st; cons instr

850 Proseminar 5: Supervision and Counsultation. 3 cr. G.
Provides an introduction to and practice in supervision in counseling psychology. Prereq: grad st; cons instr

860 (919) Proseminar 6: Capstone-Research in Couns Psych; Professional Development. 3 cr. G.
Analysis of research trends; examination of critical issues; reports of student research projects. Prereq: grad st; cons instr

873 Fieldwork in Student Personnel Services. 3-6 cr. G.
- Prereq: grad st; major in area & cons instr

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

904 Family Systems Theory, Research, and Practice. 3 cr. G.
Introduction to systems theory, major approaches to family therapy, and the research on family systems concepts, in-session processes, and therapy outcomes. Prereq: grad st; Couns 710(P).

917 Supervision of Counseling. 3 cr. G.
An examination of research and strategies for the supervision of counseling; experience in the actual process of supervision. Prereq: grad st; Couns 970

968 Supervised Practicum 2 in School Counseling. 3 cr. G.
Supervised practice in cooperating K-12 school settings. Retakable to 9 cr max. Prereq: grad st; field placement; Couns 774(P); cons instr; Sat/Unsat grade only.

970 Supervised Practicum 2 in Community Counseling. 3 cr. G.
Practice in cooperating colleges, agencies, and other community settings. Retakable to 9 cr max. Sat/Unsat grade only. Prereq: grad st; field placement; Couns 775(P); cons instr; competency req.

971 Supervised Practicum in Group Counseling. 3-9 cr. G.
Controlled practicum in group counseling with cooperating schools, colleges and agencies. Prereq: master's degree in Ed Psy; acceptance by Couns area; letter of recomm from agency or school

972 Internship in Counseling I. 6 cr. G.
Practical experience in a cooperating school involving counseling procedures. Supervised by qualified staff at the employing unit and by counselor education faculty. Seminar participation required. Prereq: master's degree in Ed Psy with specialization in Couns & writ cons instr.

973 Internship in Counseling II. 6 cr. G.
Practical experience in a cooperating urban school involving counseling procedures. The intern counselor is supervised by qualified staff of the employing unit and by counselor education faculty. Seminar participation required. Prereq: grad st; Couns 972 & writ cons instr

974 Internship in Rehabilitation Counseling. 3-6 cr. G.
Supervised experience in a public or private rehabilitation agency. Stress on case management and counseling procedures with a variety of clients. Prereq: admis to rehab couns concentration; writ cons instr & agency.

975 Doctoral Practicum in Counseling 3. 3 cr. G.
A supervised counseling experience with emphasis on the process and techniques of assessment, individual, and group counseling. Opportunity for consultation and feedback on counseling issues. Sat/Unsat grade only. Retakable to 9 cr max. Prereq: grad st; field placement; admis to PhD prog in Urban Educ, cons instr.

976 Doctoral Practicum in Counseling 4. 3 cr. G.
A supervised counseling experience with a broad range of clients within a clinical setting. Opportunity for consultation and feedback on counseling issues, and experience at providing supervision of masters' level students. Retakable to 9 cr max. Sat/Unsat grade only. Prereq: grad st; field placement; admis to PhD prog in Urban Educ; Couns 975(P); cons instr.

977 Advanced Doctoral Practicum in Counseling-5. 3 cr. G.
Advanced supervised training in specialized areas of counseling psychology: psychological assessment; individual, family, or group therapy; and consultation in outpatient, inpatient, or community mental health settings. Retakable to 9 cr max. Sat/Unsat grade only. Prereq: grad st; field placement; admis to PhD program in Urban Ed; Couns 976(P); cons instr.

990 Research or Thesis. 1-3 cr. G.
- Prereq: grad st; cons major professor.

999 Independent Reading. 1-3 cr. G.
For benefit of doctoral students unable to secure needed content in regular courses. Prereq: doctoral st & cons instr.

ENGINEERING

Engineering
- Phone: (414) 229-6169
- Fax: (414) 229-6958
- E-mail: bwarras@uwm.edu

Computer Science
- Phone: (414) 229-4677
- Fax: (414) 229-6958
- E-mail: dta@uwm.edu

School/College: College of Engineering and Applied Science

Degrees Conferred:

- MS in Engineering
- MS in Computer Science
- PhD in Engineering

Overview

With the exception of the Master of Science in Computer Science, the graduate programs offered by the College of Engineering and Applied Science are college-wide programs, and the responsibility for these programs is vested in the graduate faculty of the College operating via an interdepartmental committee, the Graduate Program Subcommittee (GPSC).

The engineering master's program offered by the College is the Master of Science in Engineering.

The program provides breadth by requiring a program of coursework and depth through participation in research or design synthesis. The research or design synthesis effort is documented in a thesis that is presented and defended by the student at the final degree examination. For those with prior engineering/scientific work experience which includes appropriate report writing, the program offers a non-thesis option which requires additional coursework in lieu of thesis.

Since the program does not require a rigid set of courses, each student, in consultation with faculty, has the flexibility to put together a program of study which is compatible with the student's career objectives. The flexibility of customizing the program of study makes the Master of Science in Engineering Program suitable as a terminal degree as well as a stepping stone for doctoral level study.

Master's Overview

The master's program in Engineering currently offers the following areas of concentration:

- Civil Engineering
- Electrical and Computer Engineering
- Engineering Mechanics
- Industrial and Management Engineering
- Manufacturing Engineering
- Materials Engineering
- Mechanical Engineering

The Master of Science in Computer Science is a departmental program and is offered by the Department of Electrical Engineering and Computer Science. The program is designed to provide the student with a broad background in important aspects of computer science. Areas of concentration include software engineering, computer systems, computer networks, data security, and artificial intelligence. The student may prepare for a career in the industrial, business, or government communities, or for doctoral studies.

PhD Overview

The Doctor of Philosophy, the highest degree offered by the University, is conferred in recognition of marked scholarship in a broad field of knowledge as well as distinguished critical or creative achievement within a special area of the general field (the special area being the subject of the doctoral dissertation). The Doctor of Philosophy program in the College is designed to meet the traditional high standards for such programs.

There are six major areas in the PhD program:

- Civil Engineering
- Computer Science
- Electrical Engineering
- Industrial Engineering
- Materials Engineering
- Mechanical Engineering

In the various programs, there is enough flexibility to allow the student to develop a plan of studies tailored to meet individual needs. Evaluation of the study plan is based on its appropriateness as an engineering or computer science program, the availability within the University of appropriate course offerings, and the availability within the College of a faculty member who is qualified to serve as the student's major professor.

The PhD degree requires a minimum of 66 credits beyond the baccalaureate, including a dissertation. The student must also satisfy a residence requirement.

Students who wish to gain an advanced level professional learning experience with an industrial or government organization may select the internship course (997) subject to approval of the advisor, a participating industrial or government organization and of the GPSC and the CEAS Associate Dean. Internship registration must be for 6 credits and may be used towards fulfilling the residence requirement. Not more than 6 credits of internship registration will be counted toward the degree. Further details are included under the description of the Doctor of Philosophy degree program in this section.

Many of the courses leading towards the various master's degrees and the doctoral degree are offered in the late afternoon or evening; thus students can complete much of their coursework on a part-time basis.

MS/MUP Program Overview

In cooperation with the Department of Urban Planning, the College of Engineering and Applied Science offers a Master of Science in Engineering/Master of Urban Planning program to prepare students for positions in transportation, public works or similar areas. Students in the program will concurrently pursue a Master of Science in Engineering degree and a Master of Urban Planning degree from the School of Architecture and Urban Planning. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree. Candidates seeking admission to the MS/MUP must apply to and be admitted to both programs. The requirements for admission to the Master of Urban Planning degree program are detailed in the Urban Planning section of the Bulletin.

Students are required to meet the College of Engineering and Applied Science requirements for the Master of Science in Engineering degree as well as the requirements for a Master of Urban Planning degree as set by the Department of Urban Planning. Students in the MS/MUP program are required to take 6 credits in the Department of Urban Planning as well as an additional 24 credits of core courses in the Department of Urban Planning. The total credit requirement for the MS/MUP program is 54 credits. Students in the MS/MUP program must also take and pass a comprehensive exam in Urban Planning.

Cooperating Departments:

- Civil Engineering
- Electrical Engineering and Computer Science
- Industrial and Manufacturing Engineering
- Materials
- Mechanical Engineering

Graduate Faculty

Civil Engineering

Professors

Christensen, Erik, Ph.D., P.E., University of California-Irvine, Chair
Ghorbanpoor, Al, Ph.D. P.E., University of Maryland
Horowitz, Alan J., Ph.D., University of California-Los Angeles

Associate Professors

Bravo, Hector, Ph.D., University of Iowa
Helwany, Sam M.B., Ph.D., University of Colorado-Boulder
Li, Jin, Ph.D., University of Cincinnati
Rahman, Adeeb, Ph.D., University of Wisconsin - Madison

Sobolev, Konstantin, Ph.D., Research Institute of Concrete and Reinforced Concrete, Russia
Tabatabai, Habibollah, Ph.D., University of Florida
Titi, Hani, Ph.D., Louisiana State University

Assistant Professors
Liao, Qian, Ph.D., Cornell University
Papadopoulos, Christopher M, Ph.D. Cornell University
Zhao, Jian, Ph.D., University of Minnesota

Electrical Engineering and Computer Science

Professors
Davida, George I., Ph.D., University of Iowa
Gregory, William, Ph.D., Massachusetts Institute of Technology
Misra, Devendra K., Ph.D., Michigan State University
Reza, Ali M., Ph.D., University of Wyoming
Suzuki, Ichiro, D.E., Osaka University
Vairavan, K., Ph.D., University of Notre Dame
Yu, David, Ph.D., University of Oklahoma
Zhang, Jun, Ph.D., Rensselaer Polytechnic Institute

Associate Professors
Armstrong, Brian, Ph.D., Stanford University
Boyland, John, Ph.D., University of California- Berkeley
Dumitrescu, Adrian, Ph.D., Rutgers—The State University of New Jersey
Hanson, George W., Ph.D., Michigan State University
Hosseini, Seyed, Ph.D., University of Iowa, Co-Chair
Klemer, David P., M.D., Ph.D., University of Michigan - Ann Arbor
Law, Chiu-Tai, Ph.D., Purdue University, Co-Chair
Mali, Amol, Ph.D., Arizona State University
McRoy, Susan, Ph.D., University of Toronto
Munson, Ethan, Ph.D., University of California-Berkeley

Assistant Professors
Bockhorst, Joseph, Ph.D., University of Wisconsin-Madison
Cheng, Christine, Ph.D., Johns Hopkins University
Goyal, Mukul, Ph.D., Ohio State University
Kouklin, Nikolai, Ph.D., University of Nebraska-Lincoln
Nasiri, Adel, Ph.D., Illinois Institute of Technology
Wang, Weizong, Ph.D., University of Maryland-College Park
Xu, Guangwu, Ph.D., State University of New York, Buffalo
Ying, Lei, Ph.D., University of Illinois-Urbana/Champaign
Zhang, Hao, Ph.D., Texas A&M University
Zhao, Tian, Ph.D., Purdue University

Industrial and Manufacturing Engineering

Distinguished Professor
Garg, Arun, Ph.D., University of Michigan, Chair

Professor
Saxena, Umesh K., Ph.D., P.E., University of Wisconsin-Madison

Associate Professors
Jang, Jaejin, Ph.D., Purdue University
Seifoddini, Hamid, Ph.D., Oklahoma State University

Assistant Professor
Petering, Matthew, Ph.D., University of Michigan

Materials

Distinguished Professor
Rohatgi, Pradeep K., D.Sc., Massachusetts Institute of Technology

Wisconsin Distinguished Professor
Aita, Carolyn R., Ph.D., Northwestern University

Professors
Lopez, Hugo F., Ph.D., Ohio State University, Chair
Neumann, Joachim P., Ph.D., University of California-Berkeley

Associate Professor
Abu-Zahra, Nidal, Ph.D., Cleveland State University
Venugopalan, Devarajan, Ph.D., McMaster University

Mechanical Engineering

Professors
Amano, Ryoichi S., Ph.D., University of California-Davis
Jen, Tien-Chien, Ph.D., University of California-Los Angeles, Chair

Associate Professors
Chen, Junhong, Ph.D., University of Minnesota
Dhingra, Anoop, Ph.D., Purdue University
Gong, Shaoqin (Sarah), Ph.D., University of Michigan-Ann Arbor
Perez, Ronald A., Ph.D., Purdue University
Pillai, Krishna, Ph.D., University of Delaware
Reisel, John R., Ph.D., Purdue University
Renken, Kevin J., Ph.D., University of Illinois-Chicago

Assistant Professors
Li, Yaoyu, Ph.D., Purdue University

Master of Science in Engineering

Admission

An applicant must meet Graduate School requirements plus this College requirement to be considered for admission to the program:

1. Undergraduate major in engineering, mathematics or a natural science.
2. Submission of official GRE scores from test taken within the last 5 years.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Major Professor as Advisor

The Graduate School requires that the student have a major professor to advise, supervise, and approve the Program of Study before registering for courses. The College will assign the incoming student to a temporary Program Advisor at the time of admission.

Program of Study

During the first semester or immediately after completion of 9 credits, a student in the Master of Science in Engineering program must select a thesis advisor who will be the student's major professor. During the first semester the student, in consultation with the program advisor or major professor, develops a program of studies and submits it to the College Graduate Program Subcommittee. To make subsequent changes, the student must petition the Graduate Program Subcommittee prior to pursuing the proposed changes.

Master's Program Committee

The Program Committee is proposed by the major professor in consultation with the department. The Committee is to include at least two members from the major area and at least one from outside the major area.

Credits and Courses

Minimum degree requirements are 24 credits for the thesis option and 30 credits for the non-thesis option as outlined below. The student, in consultation with the major professor, develops a plan of study consistent with the student's professional interests; this plan has to be approved by the College Graduate Program Subcommittee (GPSC). Of the courses offered in the College only those numbered 400 and above may be taken for graduate credit for this degree. Independent study courses (699 and 999) may be included in the minimum course credit requirements provided GPSC approval has been obtained prior to registration in such courses. Typically no more than three credits of independent study are allowed in the MS Program. Guidelines on acceptable independent

study courses are available in the CEAS Graduate Studies Office. A student may not use courses required for a baccalaureate degree for subsequent graduate credit.

Thesis Option

All students are encouraged to undertake the thesis option. The degree requires a minimum of 12 credits in an approved technical program of studies, 9 credits of approved electives and 3 credits of thesis. At least 12 credits, not including thesis, must be in courses of 700 level or higher. At least 12 credits, including thesis, must be earned at UWM. The thesis may be written in absentia provided prior permission has been obtained from the major professor and the Associate Dean for Graduate Studies in the College of Engineering and Applied Science. Students in the thesis option must pass a final comprehensive examination partially in defense of the thesis.

Non-Thesis Option

Students will be required to specify a thesis or non-thesis option in their program of study. After 12 credits of course work are completed, changes from thesis to non-thesis option will not be allowed, except under exceptional circumstances to be considered on a case-by-case basis. Students may always change from a non-thesis to a thesis option. Departments and faculty may make a thesis a requirement (or preference) of employment for TA's , RA's, and PA's.

Departments may offer the following options and publish appropriate guidelines.

Capstone Option

The graduation requirements for this option are completion of 27 credits of course work plus 3 credits of a capstone project. The course work must include a minimum 18 credits in an approved technical program of study and 9 credits may be approved electives. At least 15 credits must be of 700 level and above. For the capstone project, the student must submit a written proposal and receive approval from a faculty advisor and department chair. The student will register for a 3 credit course that allows flexible independent study (either independent study or a specific capstone course).

The capstone project should be designed with the intent of leading to creative work based on the student's background, and should be the equivalent of 3 credits of work to be completed over a single semester. Upon completion of the capstone, the student must submit a written report that is acceptable to the faculty advisor and department chair. The student must give an oral presentation of the project to a committee of three graduate faculty.

Comprehensive Exam Option

The graduation requirements for this option are completion of 30 credits of course work and a demonstration of course mastery. The course work must include a minimum 21 credits in an approved technical program of study and 9 credits may be approved electives. At least 15 credits must be of 700 level and above. Course mastery may be demonstrated by one of the following:

- The student achieving a minimum 3.5 GPA on at least 30 credits of course work, including 15 credits of courses 700 or higher, and passing an oral examination given by the comprehensive examination committee.
- The student passing a written master's comprehensive examination when it is offered by the department. Departments allowing an examination option will offer such exams at least once per semester, and will announce the date of the exam at least 60 days before the exam. The department also must provide a written description of the topics covered on the exam, including text books and chapters.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Certificate In Ergonomics

The Certificate in Ergonomics program is designed to provide a formal program of study for students who wish to pursue careers in ergonomics in industry, government, or academia.

Students wishing to earn the certificate must be enrolled either in a master's or doctoral degree program in any department or be admitted as non-degree graduate students (see below) at the University of Wisconsin-Milwaukee and must complete the required 15 credit hours with a GPA of 3.0 or better from the following group of courses:

- I&ME 580 Ergonomics of Workplace, 3 cr.
- I&ME 780 Advanced Ergonomics - Low Back Pain, 3 cr.
- I&ME 783 Advanced Ergonomics - Upper Extremity, 3 cr.
- I&ME 786 Issues In Ergonomics: Measurement and Statistics, 1 cr.
- I&ME 787 Issues In Ergonomics: Epidemiology, 1 cr.
- I&ME 788 Issues In Ergonomics: Legal/Regulatory, 1 cr.
- I&ME 790 Design Project, 3 cr.

Those students who wish to earn the certificate in ergonomics and are not enrolled in a degree program at UWM can be admitted as non-degree graduate students in Engineering provided they meet one of the following requirements:

- A bachelor's or higher degree with a GPA of 2.75 or better in engineering, medicine, industrial hygiene, safety, physical therapy, occupational therapy, nursing, educational psychology, human kinetics.
- A bachelor's or higher degree with a GPA of 2.75 or better with evidence of at least one year of experience in ergonomics and/or occupational health and safety related area.

Admission as a non-degree graduate student in Engineering does not constitute admission to a Master's or a Doctoral degree program in Engineering.

Students wishing to obtain the Certificate in Ergonomics must declare their intentions by applying to the Industrial and Manufacturing Engineering Department prior to completion of two of the seven required courses. After completing the program requirements, a Certificate in Ergonomics will be awarded by the Department of Industrial and Manufacturing Engineering within four weeks after completing the requirements.

Master of Science in Computer Science

Admission

An applicant must meet Graduate School requirements and either of the following program requirements to be considered for admission:

- Undergraduate major in Computer Science, or
- Satisfactory completion of two programming courses (such as CS 201 and 251); at least 6 additional credits of coursework in CS; and Math 231 and 232 or their equivalents.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses. The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Major Professor as Advisor

The student is assigned an initial faculty advisor at the time of admission. Unless the student chooses the thesis option, the initial advisor may also serve as the regular advisor for the duration of the student's enrollment in

the program. If the student chooses the thesis option, he/she should select a faculty member as the thesis advisor after consultation with that faculty member. The student's Program of Study should be approved by the advisor and the chairperson prior to the completion of 9 credits in the program.

Credits and Courses

The following is a requirement for both options: The student must have taken six Computer Science courses (specified below) or their equivalents prior to completion of the MS Program. Appropriate courses taken by a student in another program that are considered equivalent to the courses below can be used to satisfy this requirement with the approval of the Department. The six courses are:

All four of the following courses
- CS315 Computer Organization and Assembly Language Programming
- CS317 Discrete Information Structures
- CS458 Computer Architecture
- CS535 Data Structures and Algorithms

Any two of the following four courses
- CS417 Introduction to the Theory of Computation
- CS431 Programming Language Concepts
- CS536 Software Engineering
- CS537 Operating Systems

At most, six credits of the courses used to satisfy this requirement (excluding 215 and 217) and taken as a graduate student may be used to satisfy the course requirements of the following two options:

Thesis Option

Minimum degree course requirements are 21 credits of course work and at least 6 credits of thesis (no more than 4 credits of thesis per semester can count toward this requirement). A student must take at least 15 credits of 700 (or higher) level courses. CS 704 (Analysis of Algorithms) is a required course. The student must write an acceptable thesis under the supervision of a faculty advisor. The student must also pass a final comprehensive examination which will normally focus on the thesis. Once a student begins a thesis under the supervision of an advisor, the chairperson must approve all changes including a change to a new advisor.

Non-Thesis Option

Minimum degree course requirements are 30 credits with at least 21 credits of 700 (or higher) level courses. CS 704 (Analysis of Algorithms) is a required course. As part of the above requirements, the student must complete a capstone project by registering for and completing 3 credits of CS 999 (Advanced Independent Study) with a grade of B or better, under the supervision of a faculty advisor.

Time Limit

All students must complete the degree requirements within five years of initial enrollment.

Doctor of Philosophy in Engineering

Admission

An applicant must meet Graduate School requirements plus these College requirements to be considered for admission to the program:

1. Bachelor's or master's degree in engineering or computer science depending on the program area selected.
2. Applicants with BS or MS degrees outside of engineering or computer science may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses. The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree. The undergraduate/graduate preparation including mathematics equivalent to ElecEng 234 or Math 234, or the made-up deficiencies must be sufficient to assure the Graduate Program Subcommittee that the applicant is able to proceed with advanced work directed toward the doctoral degree.
3. A grade point average of 3.0 on the basis of 4.0 in highest degree granted. An applicant with a master's degree in engineering having a GPA of less than 3.0, but at least equal to 2.75, may be admitted if substantial evidence can be submitted demonstrating that the applicant has the capacity to perform satisfactory doctoral work.
4. All applicants are required to submit a brief (1 or 2 page) statement describing their professional goals and at least two letters of reference.

Reapplication

A student who receives a master's degree at UWM must formally apply for admission to the Graduate School as a doctoral student before continuing studies which will be credited toward the Doctor of Philosophy in Engineering.

Credits and Courses

The minimum degree requirement is 66 graduate credits beyond the bachelor's degree. The minimum credit distribution of coursework to be undertaken must be as follows depending on the option selected.

- 21 credits in the major area of concentration
- 9 credits in an approved minor area
- 6 credits in mathematics and/or quantitative methods
- 18 credits of doctoral thesis
- 12 credits of approved electives

The 6-credit requirement in mathematics and/or quantitative methods may be met by satisfactorily completing certain courses specified by the GPSC or by taking the minor in mathematics. When such courses also count for either the major or the minor area, the remaining credits may be taken as approved electives.

The major area of concentration must be in one of the six areas approved for the PhD degree in the College. These areas are: Civil Engineering, Computer Science, Electrical Engineering, Industrial Engineering, Materials, and Mechanical Engineering. The minor is normally in another area offered in the College or in the physical sciences or mathematics or in management sciences. Consideration of any other area as a minor requires the prior approval of the GPSC.

A minimum of 26 credits, excluding thesis and internship, if applicable, must be at the 700 level or higher.

A minimum of 33 credits, including thesis and internship, when applicable, must be completed while enrolled at UWM in the PhD degree program.

A maximum of 33 credits of coursework can be considered for transfer credits for prior graduate work including a master's degree earned at UWM or elsewhere provided the coursework taken falls within the appropriate areas. Students entering the program without a prior applicable master's degree are limited to a total maximum transfer of 9 credits for courses taken elsewhere. Independent study courses (699 and 999) may be included in the minimum course credit requirements provided GPSC approval has been obtained prior to registration in such course. Typically no more than six credits of independent study are allowed in the Ph.D. Program. Guidelines on acceptable independent study courses are available in the CEAS Graduate Studies Office.

The GPSC may require candidates to complete certain courses as part of the requirement for the specific major or to meet the mathematics and/or quantitative methods requirement.

Major Professor as Advisor

The Graduate School requires that the student must have a major professor to advise, supervise, and approve the program of study before registering for courses. The GPSC will

assign the incoming student to a temporary Program Advisor at the time of admission. Prior to the completion of 12 credits (9 credits for part-time students), the student must select a major professor who will be the student's thesis advisor. The student in consultation with the major professor develops a proposed program of studies which is submitted to the Graduate Program Subcommittee for approval. For subsequent changes, the student must file a revised program of study for approval.

Internship Elective

Students interested in undertaking an internship may do so by taking not more or less than 6 credits in course 997. Registration for Internship may be used toward meeting the residence requirements. Not more or less than 6 credits of internship will be counted toward the degree. The internship normally involves a cooperative effort with industry or government agencies where the student is involved actively in advanced professional engineering activities.

Registration in the internship course must be subsequent to passing the Qualifying Examination and submission of an internship proposal outlining the scope and objectives of the activity. The internship proposal must be duly approved by the advisor, the organization where the internship is proposed, the GPSC and the CEAS Associate Dean for Graduate Studies. The College does not guarantee that every student interested in an internship will be placed appropriately. In the absence of suitable placements, students should plan to take other courses to fulfill the degree requirements.

Foreign Language

There is no foreign language requirement for the degree.

Residence

The program residence requirement is satisfied either by completing 8 or more graduate credits in two consecutive semesters, exclusive of summer sessions, or by completing 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions.

Qualifying Examination

A qualifying examination must be taken to determine whether the individual is qualified for doctoral-level work. For students entering with a bachelor's degree, this examination, which will be written, may be taken after 18 credits of graduate work have been earned and must be satisfactorily completed before 30 credits of graduate work have been completed. Students admitted after completion of an appropriate master's degree must complete the examination satisfactorily before 12 credits of coursework have been earned at UWM subsequent to admission to the PhD program. The examination will be for a given area, \but will also include material on basic engineering principles. The examination will normally be offered twice a year during the regular academic year. A student may take the examination twice; if a passing grade is not obtained on the second attempt the applicant will not be permitted to proceed toward the Doctor of Philosophy degree.

Doctoral Program Committee

The Program Committee is proposed by the major professor in consultation with the department. The Committee is to include at least five graduate faculty (three from major area, one from minor area, and one from another area). Outside members, particularly for those with internships, are desirable. The majority of the Committee members should be from the student's major field.

Doctoral Preliminary Examination

A student is admitted to candidacy only after successful completion of the doctoral preliminary examination conducted by the Program Committee. This examination, which normally is oral, must be taken before the completion of 48 credits of graduate work toward the Doctor of Philosophy degree in Engineering and should be taken within the first seven years in the program. Prior to the examination the student must present a proposal for a doctoral dissertation project. The examination may cover both graduate course material and items related to the proposed dissertation project.

Dissertation

The student must carry out a creative effort in the major area under the supervision of the major professor and report the results in an acceptable dissertation. Registration for dissertation requires successful completion of the doctoral preliminary (Candidacy) examination and prior approval of the student's advisor, the doctoral committee, and the GPSC of a dissertation proposal which outlines the scope of the project, the method of approach, and the goals to be achieved. Any proposal that may involve a financial commitment by the University also must be approved by the Office of the Dean. Total dissertation project registration is for a minimum of 18 credits and any student registering for thesis must continue to register for 3 credits per semester during the academic year until the dissertation is completed.

Dissertation Defense

The final examination, which is oral, consists of a defense of the thesis project. It can only be taken after all coursework and other requirements have been completed.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

For additional information see the Graduate School PhD requirements.

Courses - Civil Engineering

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

401 Intermediate Strength of Materials. 3 cr. U/G.
Area moment, conjugate beam, deflection due to shear, bending of unsymmetrical beams, curved beams, shear flow, shear center, stresses in open sections, theories of failure, plastic stress-strain relations, plastic deformation, limit analysis, energy methods, laboratory investigation. Prereq: jr st, Civ Eng 303(P).

411 Engineering Principles of Water Resources Design. 3 cr. U/G.
Principles of hydraulics; steady and non-steady flow in closed conduits and open channels; hydraulic design of structures, surge tanks; hydraulic model studies. Prereq: jr st & admis to an Eng major or grad st; MechEng 320(P).

412 Applied Hydrology. 3 cr. U/G.
Applied hydrology with emphasis on analysis of rainfall, runoff and streamflow processes, hydrologic forecasting and simulation, urban hydrology, hydrologic design and modelling. Prereq: jr st; Math 233(P) & MechEng 320(P).

413 Environmental Engineering. 3 cr. U/G.
Water pollution and control; hazardous substances and risk assessment; water and wastewater treatment systems; air-pollution and emission control; solid wastes; design of treatment facilities. Prereq: jr st & admis to an Eng major or grad st; MechEng 320(P).

431 (331) Materials of Construction. 3 cr. U/G.
Investigation covering engineering properties of metals, timber, concrete, masonry, plain and reinforced plastics, glues; thermal effects. Prereq: jr st; Civ Eng 303(P).

456 Foundation Engineering. 3 cr. U/G.
Site investigation; foundation bearing capacity and settlement; design of spread and combined footings; lateral earth pressures; retaining wall design; slope stability analysis; pile foundations. Prereq: jr st; Civ Eng 335(P).

463 Introduction to Finite Elements. 3 cr. U/G.
Generation and assembly of finite element matrices in one- and two-dimensional problems. Modeling and practical applications in solid mechanics, heat transfer and fluid flow. Not open to

students with cr in MechEng 463, which is identical to Civ Eng 463. Prereq: ElecEng 234(P), Civ Eng 303(P), MechEng 320(C), 311(C) or 321(C).

490 Transportation Engineering. 3 cr. U/G.
Technological and common elements of all modes of transportation; their effect on performance, demand, and outputs of a transportation system. Development of new transportation systems. Prereq: jr st & admis to an Eng major; Civ Eng 280(P); or grad st.

492 Environmental Impact Assessment. 3 cr. U/G.
Study and evaluation of the impacts of large scale projects on the quality of the environment with emphasis on the assessment of physical and community impacts. Impact statement preparation. Prereq: sr st.

502 Experimental Stress Analysis. 3 cr. U/G.
Basic stress strain relations; demonstration of experimental methods of determining stresses and strains; use of mechanical strain, electric strain, and strain gages, optical photoelastic equipment, brittle lacquers, models. Prereq: jr st & Civ Eng 303(P).

511 Water Supply and Sewerage. 3 cr. U/G.
Resources of water supply quality and quantity requirements. Principles of hydraulic design of water supply and sewerage systems; pumping stations. Principles of sewage disposal. Problems of management involving hydrological, engineering, institutional, legal and economic aspects. Design project. Prereq: jr st; Civ Eng 411(P).

521 Water Quality Assessment. 3 cr. U/G.
Laboratory techniques for detecting and measuring physical, chemical and biological characteristics of water and wastewater. Water quality requirements. Design of sampling programs. Prereq: sr st; Civ Eng 411(P).

560 Intermediate Structural Analysis. 3 cr. U/G.
Topics in traditional analysis methods; indeterminate structures, load & load paths, moment distribution, approximate methods, elementary plate analysis. Prereq: jr st; Civ Eng 360(P), 372(P).

571 Design of Concrete Structures. 3 cr. U/G.
Topics in reinforced concrete design; indeterminate reinforced concrete beams and frames; length effect in columns; torsion; two way floor systems; yield line theory. Prereq: jr st; Civ Eng 360(P), 372(P).

572 Design of Steel Structures. 3 cr. U/G.
Topics in design of steel structures; tension, compression, and beam members; combined axial and bending; connections; moment resisting frames; serviceability; composite construction, maintenance. Prereq: jr st; Civ Eng 360(P), 372(P).

573 Design of Masonry Structures. 3 cr. U/G.
Topics in design of masonry structures; materials, loads, design codes, reinforced & unreinforced axial & flexural members, composite & cavity walls, shear walls, seismic requirements. Prereq: jr st; Civ Eng 360(P), 372(P).

574 Design of Prestressed Concrete Structures. 3 cr. U/G.
Design of prestressed concrete structures; methods of prestressing; loss of prestress; design for flexure, shear, torsion; camber and deflections; continuity; connections; fire rating; circular prestressing. Prereq: jr st; Civ Eng 360(P), 372(P).

578 Design of Wood Structures. 3 cr. U/G.
Design of timber structures; properties of wood; design for bending, shear, and combined bending and axial load; connections; laminated sections; rigid frames and arches. Prereq: jr st; Civ Eng 360(P).

579 Earthquake Engineering. 3 cr. U/G.
Earthquake mechanics and effects, structural dynamics, seismic hazard analysis, design guidelines, design of steel and concrete buildings for earthquake loads. Counts as repeat of Civ Eng 891 w/same subtitle. Prereq: sr st; Civ Eng 571(P) or 572(P); or cons instr; or grad st.

580 Engineering Analysis in Applied Mechanics. 3 cr. U/G.
Engineering analysis of initial and boundary value problems in applied mechanics. Application of various methods to investigate a variety of engineering situations. Not open to students with cr in MechEng 580, which is identical to Civ Eng 580. Prereq: jr st; ElecEng 234(P).

590 Urban Transportation Planning. 3 cr. U/G.
Techniques used to plan urban transportation systems; data collection, trip generation, trip distribution, factors underlying the choice of mode, traffic assignment, modeling and evaluation techniques. Prereq: sr st.

592 Traffic Control. 3 cr. U/G.
Control of transportation systems with emphasis on traffic engineering principles. Data collection, capacity analysis, traffic improvements, signalization, signs and markings, channelization, intersection, speeds and safety considerations. Prereq: sr st.

594 Physical Planning and Municipal Engineering. 3 cr. U/G.
Organization and structure of local government, zoning and planning, subdivision layout, street design, transit service, urban drainage, storm and sanitary sewer, water supply and other public works activities. Prereq: sr st & cons instr.

596 Transportation Facilities Design. 3 cr. U/G.
Physical design of transportation facilities including geometric design, pavements, and terminals for highway, rail, air and water transportation. Student project work will be required. Prereq: Civ Eng 335(C) & 490(P).

598 Pavement Analysis and Design. 3 cr. U/G.
Pavement types, design factors, traffic loading and volume, materials characterization, drainage design, flexible and rigid pavements design, stresses and deflections, overlay design, pavement rehabilitation. Prereq: jr st & Civ Eng 335(P); or grad st.

610 Introduction to Water and Sewage Treatment. 3 cr. U/G.
Characteristics of water and sewage. Principles of physical, chemical and biological processes for water and sewage treatment. Design project. Prereq: sr st; Civ Eng 413(P).

614 Hazardous Waste Management. 3 cr. U/G.
Hazardous waste; regulatory process; fate and transport of contaminants; treatment and disposal methods; site remediation; quantitative risk assessment; design project. Prereq: Civ Eng 413(P).

691 Topics in Civil Engineering: (Subtitled). 1-3 cr. U/G.
Topics vary. Study of topics in theory and practice of civil engineering. Specific topics and any additional prerequisites will be announced in Schedule of Classes each time the course is offered. Retakeable for max of 6 cr. Prereq: jr st.

699 Independent Study. 1-3 cr. U/G.
- May be retaken to max of 6 cr toward the undergraduate degree. Prereq: jr st; cons instr.

701 Advanced Strength of Materials. 3 cr. G.
Beams of elastic foundations; advanced energy methods; thick walled cylinders; torsion of non-circular sections; approximate methods for stresses in plates, stress concentrations, contact stresses, interaction curves, elastic and inelastic buckling, introduction to elasticity. Some laboratory, matrix, and tensor applications. Prereq: grad st; Civ eng 303(P) & 401(C) or cons instr.

702 Elastic Stability. 3 cr. G.
Sending of bars under simultaneous action of axial and lateral loads; buckling of compressed bars, rings, and tubes; lateral buckling of beams; torsion of i-beams; buckling of thin plates. Prereq: grad st. Civ Eng 401(P) ElecEng 234(P).

710 Industrial Waste Treatment. 3 cr. G.
Principles and theories of treating industrial wastes. Characterization of industries and their wastes. Treatment processes including tertiary and advanced wastewater separation techniques. Hazardous wastes management. Administration of industrial waste control. Programs. Prereq: grad st; Civ Eng 521(P) & 610(P) or cons instr.

711 Water Resource Planning and Systems Analysis. 3 cr. G.
Programming and optimization theory applied to water resources. Ground water systems analysis. Multi-level optimization

of systems analysis for water supply and pollution control. Systems simulation for regional analysis. Economic evaluation. Prereq: grad st; Civ Eng 411(P) or cons instr.

712 Ground Water Flow and Seepage. 3 cr. G.
Linear and non-linear seepage laws; theoretical models; electro-osmosis in soils; analytical solution to steady state problems; numerical solutions to transcient problems; analytical solutions to transient problems; experimental methods and models; design of dewatering systems. Prereq: grad st; Civ Eng 411.

713 Design Of Environmental Engineering Systems. 3 cr. G.
Principles and analysis of environmental systems involving surface and groundwater. Methods of environmental engineering processes, planning design, and management of water and land systems. Prereq: grad st; Civ Eng 511(P) & 610(P) or equiv.

714 Unit Operations in Environmental Engineering. 3 cr. G.
Unit operations of physicochemical and biological aspects employed in water and wastewater treatments. In-situ treatment of contaminated groundwater. Theory and development of design criteria. Prereq: grad st; Civ Eng 610(P); cons instr.

716 Sediment and Pollutant Transport. 3 cr. G.
Sediment properties; incipient motion, bed forms, suspended load, bed load, river processes. Pollutant diffusion theories; longitudinal dispersion, vertical and transverse mixing in open channel flow. Prereq: grad st; Civ Eng 411(P).

717 Open Channel Flow. 3 cr. G.
Basic equations of continuity, mechanical energy and momentum; uniform, gradually varied, and spatially varied flows; hydraulic structures; governing equations of unsteady flow and numerical solutions. Prereq: grad st; Civ Eng 411(P) or equiv.

718 Biological Processes for Water and Wastewater Treatment. 3 cr. G.
Biological and engineering principles related to trickling filters, activated sludge plants, lagoons, rotating biological contactors, aerobic and anaerobic digesters, nutrient removal and bioremediation. Prereq: grad st; Civ Eng 413(R) or 610(R)

720 Solid Wastes Engineering. 3 cr. G.
Concepts in designing solid wastes collection, processing, and disposal systems; combustion by incineration, fluidized beds; landfill; composting; pollution problems; recycling; systems approach to design. Prereq: grad st; Civ Eng 610(P).

721 Advanced Water Analysis. 3 cr. G.
Advanced analytical methods for evaluating sources, distribution patterns, concentrations, and biological effects of pollutants in natural waters. Tracers, nuclear techniques, organics, metals, bioassays. Lecture and laboratory. Prereq: grad st; Civ Eng 521(P) or cons instr.

725 Finite Element Methods in Engineering. 3 cr. G.
Formulation and assembly of finite elements. Tools in numerical analysis, interpolation, integration. Trusses, beams, plates, two-dimensional problems. Generalized field problems: heat transfer, fluid flow. Emphasis on practical application. Prereq: grad st.

726 Mechanical Vibrations. 3 cr. G.
Free and forced vibrations of multiple degree of freedom systems using modern matrix methods. Not open to students who have cr in MechEng 726, which is identical to Civ Eng 726. Prereq: grad st; MechEng 475 or equiv.

731 Properties of Concrete. 3 cr. G.
Advanced course in portland cement concrete; proportioning methods, theories of hardening and setting, properties, prefabricated concrete, precast concrete, construction methods, light-weight aggregates and concrete, causes of disintegration, protective treatments, specifications, cost estimates. Prereq: grad st; cons instr.

732 Fatigue in Engineering Materials. 3 cr. G.
Influence of repeated stress in engineering design, fatigue testing machines, and procedures, factors influencing fatigue properties, theories of fatigue failure. Prereq: Civ Eng 401(P) or cons instr.

735 Advanced Soil Mechanics. 3 cr. G.
Advanced treatment and application of theories and principles of soil mechanics; permeability and seepage; elastic theories of stress distribution; consolidation theories; shearing strength and failure criteria; plastic equilibrium. Prereq: grad st; Civ Eng 335(P).

755 Soil and Foundation Dynamics. 3 cr. G.
Dynamic properties of soils; analysis of block and pile foundations for vibrating and impact loads; analysis of retaining structures and slopes subjected to seismic loading. Prereq: grad st; Civ Eng 456(P).

756 Advanced Foundation Engineering. 3 cr. G.
Critical study of actual engineering projects; introduction to existing design procedures and the basis for foundation recommendations. Prereq: grad st; Civ Eng 456(P).

761 Advanced Structural Analysis. 3 cr. G.
Analysis of structures utilizing matrix stiffness techniques; material and geometric nonlinearities, volume changes, extreme loadings. Prereq: grad st; Civ Eng 360(P); Civ Eng 463(P).

771 Advanced Concrete Design. 3 cr. G.
Advanced topics in design of concrete structures; structural systems & bracing, two-way slab, walls, construction phase assessment, joints & ductility, design for fire, seismic design. Prereq: grad st; Civ Eng 571(P).

772 Advanced Steel Design. 3 cr. G.
Advanced topics in design of steel structures; plate girders, moment resisting frames, stability & bracing, connections, torsion, seismic design, fatigue & fracture. Prereq: grad st; Civ Eng 572(P).

773 Advanced Dynamics. 3 cr. G.
General theory of dynamic behavior from the viewpoint of Lagrangian and Hamiltonian mechanics. Application of energy principles to dynamical analysis of mechanical systems. Not open to students who have cr in MechEng 773, which is identical. Prereq: grad st; MechEng(580) or Civ Eng 580(P); or cons instr.

774 Shock and Vibration Analysis. 3 cr. G.
Dynamic response of mechanical systems to complex shock and vibration conditions; application of the eigenvalue and transform methods of analysis to the solution of engineering problems. Not open to students who have cr in MechEng 774, which is identical to Civ Eng 774. Prereq: grad st; MechEng 475(P) & 580(P).

775 Analysis and Design of Bridges. 3 cr. G.
Bridge types; loads and AASHTO specifications; analysis and design of superstructures; substructure design; computer applications. Prereq: grad st; Civ Eng 463(P); 571(P); 572(P) or cons instr.

777 Design of Multistory Buildings. 3 cr. G.
Topics in design of multistory building systems; planning & environmental criteria, loading, analysis, design, construction, lateral systems, foundation, cladding, building service & management. Prereq: grad st; Civ Eng 463(P), 571(P), 572(P).

785 Dynamics of Structures. 3 cr. G.
Analysis and design of structures subjected to dynamic loads; effects of damping and inelastic action; multi-degree of freedom and continuous systems; numerical techniques; seismic design. Prereq: grad st; Civ Eng 463(P) or cons instr.

790 Transportation Systems Design. 3 cr. G.
Principles of systems analysis as they relate to the planning, design and operation of transportation systems. Model building, evaluation, systems management. Prereq: grad st; Civ Eng 590(P).

792 Methods of Transportation Analysis. 3 cr. G.
Mathematical tools useful in analysis of transportation systems. Process of modeling and simulation, matrix techniques, network analysis, statistical analysis, etc. As related to transportation. Use of standard packaged computer programs. Class project may be utilized to develop these skills. Prereq: grad st; CompSci 151(P) or equiv. Civ Eng 590(P).

794 Traffic Planning and Operations. 3 cr. G.
Planning and design of traffic systems, delay and capacity of signalized intersections, freeway controls, traffic

system management and optimization, queues, traffic assignment and simulation. Prereq: grad st; Civ Eng 592(C).

801 Applied Elasticity. 3 cr. G.
Equations of elasticity in two and three dimensions; two dimensional problems in rectangular polar and curvilinear coordinates; torsion of noncircular shafts; bending of prismatic bars. Prereq: grad st; Civ Eng 401(P) or cons instr.

804 Theory of Plasticity. 3 cr. G.
Yield conditions, stress strain relations; plastic potential, hardening theories, torsion, bending, thick walled spherical and cylindrical shells under internal pressure; plane strain of perfectly plastic material. Prereq: Civ Eng 805(P).

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirements. Fee for 1 cr assessed. Prereq: grad st.

890 Advanced Topics in Engineering Mechanics: (Subtitled). 1-3 cr. G.
Topics vary. Study and discussion of advanced topics of current interest in mechanics. Students will prepare reports or designs using the latest developments in mechanics literature. Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st.

891 Advanced Topics in Civil Engineering: (Subtitled). 1-3 cr. G.
Topics vary. Study of advanced topics of theory and practice of structural engineering. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakeable with change in topic to max of 9 cr. Prereq: grad st.

940 Topics in Transportation: (Subtitled). 1-3 cr. G.
Topics vary. Topics and problems of current interest in transportation; readings and review of recent literature and development of a critical analysis or paper. Subject matter may be student initiated. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakeable with change in topic to max of 9 cr. Prereq: grad st.

990 Masters Thesis. 1-9 cr. G.
- Prereq: grad st; cons instr.

998 Doctoral Thesis. 1-12 cr. G.
- Prereq: grad st; cons instr & grad prog Comm.

999 Advanced Independent Study. 1-3 cr. G.
- Prereq: grad st; cons instr & grad prog committee.

Courses - Computer Science

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

417 (517) Introduction to the Theory of Computation. 3 cr. U/G.
Introduction to formal languages, grammars and automata. Finite state automata, pushdown automata, turing machines. Regular, context-free recursive and recursively enumerable languages. Decidability. Prereq: jr st; Math 221(P) or 232(P), grade of C or better in CompSci 317(217)(P).

422 Introduction to Artificial Intelligence. 3 cr. U/G.
Introduction to core techniques and broad survey of AI. Topics include: Lisp, heuristic search, knowledge representation, planning, vision, learning. Prereq: jr st; C or better in CompSci 317(217)(P) & CompSci351(252)(P).

423 Introduction to Natural Language Processing. 3 cr. U/G.
Introduction to natural language processing programs and an overview of the field. Topics include syntactic frameworks, parsing, semantics, interpretation, and applications. Prereq: jr st; C or better in CompSci 351(252)(P) & 417(517)(P).

425 Introduction to Data Mining. 3 cr. U/G.
Algorithms for uncovering useful information from data. Topics include data exploration, association rules, clustering, supervised learning, and mining structured data (e.g., sequences or graphs) Counts as repeat of CompSci 657 with same topic. Prereq: jr st; CompSci 251(P), Math 221(P) or Math 232(P)

431 (631) Programming Languages Concepts. 3 cr. U/G.
Examination of abstract features of languages. Study of syntactic and semantic models; design and programming in procedural, object-oriented, functional and logical languages. Implementation methods. Prereq: jr st; grade of C or better in CompSci 351(252)(P).

438 Software Engineering Laboratory. 1-6 cr. U/G.
Software projects involving definition, design, development, documentation and implementation of software systems. May be retaken with change of topic to 6 cr max. Prereq: jr st; C or better in CompSci 251(P).

444 Introduction to Text Retrieval and Its Applications in Biomedicine. 3 cr. U/G.
Introduction to text retrieval, text classification and their biomedical applications; topics include: indexing, query processing, and document retrieval methods. Jointly offered with & counts as repeat of HCA 444, CompSci 744, & HCA 744. Prereq: jr st; CompSci 351(P) or HCA 442(P).

458 Computer Architecture. 3 cr. U/G.
Processor organization and design; memory organization; microprogramming and control unit design; I-O organization; case studies of selected machine architectures. Jointly offered with & counts as repeat of ElecEng 458. Prereq: jr st; CompSci 315(215)(P) or ElecEng 354(P).

459 Fundamentals of Computer Graphics. 3 cr. U/G.
Scan-line algorithms, object representation, homogeneous coordinates, geometric transformations, viewing curves, illumination models, interactive input methods, texture mapping. Prereq: jr st; Math 232(P); CompSci 251(P).

469 Introduction to Computer Security. 3 cr. U/G.
Privacy and authenticity of data and programs, communication, operating systems, network and database security, computer viruses, cryptography, private and public key cryptosystems, protocols. Prereq: jr st; C or better in both CompSci 317(217)(P) & 201(P).

511 Symbolic Logic. 3 cr. U/G.
First-order predicate calculus; formal properties of theoretical systems; chief results of modern mathematical logic; advanced topics such as completeness and computability. CompSci 511, Math 511, & Philos 511 are jointly offered & count as repeat of each other. Prereq: jr st & either Philos 212(P) or 6 cr Math at the 300-level or above; or grad st.

520 (620) Computer Networks. 3 cr. U/G.
Layered network architecture, protocols, data transmission, local area networks, multiplexing and switching, routing flow and congestion control, internetworking, wireless networking, network reliability and security. Prereq: jr. st; CompSci 315(215)(P) or CompSci 458(P) or ElecEng 367(P).

530 Computer Networks Laboratory. 3 cr. U/G.
Experimentation with Wired and Wireless Computer Networks Design. Data Link and MAC Protocols, LANs, WANs, Routing, Transport Layer Protocols, Congestion Control, Network Security, Network Management. Prereq: jr st; CompSci 520(P).

535 Algorithm Desgn and Analysis. 3 cr. U/G.
Introduction to abstract data structures, analysis of time and space requirements of numerical and non-numerical algorithms methods for data manipulation. Prereq: jr st; C or better in both CompSci 317(217)(P) & 351(252)(P).

536 Software Engineering. 3 cr. U/G.
Software engineering, the software life cycle, qualities of software; design, specification and verification of software, programming environments and tools,

object oriented programming. Prereq: jr st; grade of C or better in CompSci 251(P).

537 Introduction to Operating Systems. 4 cr. U/G.
Process management including scheduling, concurrency, synchronization, and deadlock; memory management, I/O management and disk scheduling, file systems, distributed operating systems. Systems programming. Prereq: jr st; CompSci 431(631)(P) or 535(P); grades of C or better in CompSci 315(215)(P) & 317(217)(P).

552 Object-Oriented Programming. 3 cr. U/G.
An advanced course in object-oriented programming. Abstraction; single and multiple inheritance; dynamic binding of functions; polymorphic types and operators; survey of object-oriented techniques. Prereq: jr st; CompSci 431(631)(P).

557 Introduction to Database Systems. 3 cr. U/G.
General database system concepts. Physical data organization. Data models and database systems. Database design theory. Query optimization. Transaction management. Logic and database. Prereq: jr st; CompSci 315(215)(P) & 251(P) or equiv.

654 Introduction to Compilers. 4 cr. U/G.
Fundamentals of compiler construction for modern programming languages. Syntax analysis, table organization, storage administration, semantic routines and code generation Prereq: jr st; CompSci 417(P) & 431(631)(P).

657 Topics in Computer Science: (Subtitled). 1-4 cr. U/G.
Lectures on recent advances in computer science. Specific credits and any additional prerequisites will be announced in Schedule of Classes whenever course is offered. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

699 Independent Study. 1-3 cr. U/G.
- May be repeated to max of 6 cr by undergraduates. Prereq: jr st; cons instr.

704 Analysis of Algorithms. 3 cr. G.
Introduction to concrete complexity theory and efficient algorithms. Fast data structure and graph algorithms, matrix multiplication, algebraic and numeric algorithms, reducibilities and np-completeness. Exponential and non-elementary lower bounds. Prereq: grad st; CompSci 217(P) & 535(P).

710 Artificial Intelligence. 3 cr. G.
AI programming, search techniques game playing, knowledge representation, knowledge acquisition, expert systems, selected topics from learning. Natural language understanding, vision and robotics. Not open to students who have cr in ElecEng 710, which is identical to CompSci 710. Prereq: grad st; CompSci 252(P) & 535(P).

711 Pattern Recognition - Statistical, Neural, and Fuzzy Approaches. 3 cr. G.
Theoretical analysis of statistical, neural, and fuzzy techniques for pattern classification and clustering. Study of learning algorithms; and applications. Not open to students who have cr in Eleceng 711 which is identical to Compsci 711. Prereq: grad st; cons instr.

712 Image Processing. 3 cr. G.
This course covers the materials required to process and enhance photographic images, remote sensor multispacial scanner data and others. Topics include transform techniques, recorders, discriminate function, and associated hardware. Prereq: grad st; cons instr.

713 Computer Vision. 3 cr. G.
Fundamental issues and current research in computer vision. Topics in early or low-level vision, intermediate vision or perceptual organization, and high-level vision or object recognition. Jointly offered w/ and counts as a repeat of ElecEng 713. Prereq: grad st; ElecEng 410(P) or cons instr.

714 Computational Geometry. 3 cr. G.
Special data structures and algorithmic techniques for representing and minipulating geometric objects, such as points, lines and polygons. Applications to vlsi design and robotics. Prereq: grad st; CompSci 535(P).

720 Computational Models of Decision Making. 3 cr. G.
Theoretical foundations and practical problems of formulating and constructing computational models of decision making. Prereq: basic course in Probability or Statistics.

722 Artificial Intelligence Planning Techniques. 3 cr. G.
Algorithms and representations for classical and more expressive planning, search control techniques, study and comparison of a variety of planners, applications of planning. Prereq: grad st; Comp Sci 535(P).

723 Natural Language Processing. 3 cr. G.
Principles and problems of natural language processing with emphasis on recent advances and open problems. Topics: lexicons, parsing, interpretation, discourse structure, generation, and collaborative interfaces. Not open to students with cr in CompSci 423. Prereq: grad st; CompSci 422(P) or 710(P).

724 Distributed Algorithms. 3 cr. G.
Identification of canonical problems in distributed computing, design and analysis of algorithms to solve these problems. Formal proof techniques and impossibility results. Prereq: grad st; CompSci 517(P), 535(P), or 523(P).

730 Advanced Computer Networks. 3 cr. G.
Network architecture, protocols, routing, congestion control, traffic management, ATM, optical networks, TCP/IP, LANs, WANs, QOS, wireless and mobile networks, mobility management, security, multimedia, network management. Prereq: CompSci 520 (P).

732 Type Systems for Programming Languages. 3 cr. G.
Lambda calculus, simple types, record types, subtypes, polymorphic types, type reconstruction, universal types, bounded quantification, higher-order types. Prereq: grad st; CompSci 431(P) & 654(P).

743 Intelligent User Interfaces. 3 cr. G.
Principles, methods, and current research in intelligent user interfaces including applications, architectures, knowledge representation, and evaluation. Prereq: grad st.

744 Text Retrieval and Its Applications in Biomedicine. 3 cr. G.
Fundamental issues and current research in text retrieval, text classification and their biomedical applications; Programming and use of indexing, query processing, and document retrieval methods. Not open to students who have cr in HCA 744, COMPSCI 444, or HCA 444. Prereq: grad st; COMPSCI 351(P) or HCA 442 (P)

747 Human-Computer Interaction. 3 cr. G.
Survey of principles, practice, and current research in human-computer interaction including hci theories, design processes, assessment techniques, and tools. Prereq: grad st.

751 Switching and Automata Theory. 3 cr. G.
Boolean algebra; special boolean functions; fault detection in logic circuits; linear sequential machines; cellular arrays; automata and regular expressions; formal languages; computability and tuting machines. Not open to students who have cr in ElecEng 751 which is identical to CompSci 751. Prereq: grad st; CompSci 458(P) or ElecEng 354(P).

754 Compiler Construction and Theory. 3 cr. G.
Theory and practice of constructing translators for high level languages; parsing context-free languages, table building, code generation and optimization, syntax-directed compilation. Prereq: grad st; CompSci 654(P).

755 Information and Coding Theory. 3 cr. G.
Information measures, entropy, source coding, channon's theorems, channel capacity, error correcting codes, linear codes, convolutional codes, arithmetic codes, encoding and decoding algorithms. Prereq: grad st.

757 Data Base Organization and File Structure. 3 cr. G.
Introduction to automatic information organization and retrieval. Dictionary construction and operation, statistical and syntactic operations, performance evaluation of retrieval systems, design of query languages, models of database

systems, database security. Prereq: grad st; CompSci 217(P) & 535(P).

758 Advanced Computer Architecture. 3 cr. G.
Advanced topics in computer architecture including pipeline processing, multiple and parallel processing systems, performance enhancement issues and vlsi computing structures. Not open to students who have cr in ElecEng 758, which is identical to CompSci 758. Prereq: grad st; CompSci 458(NP) or ElecEng 458(NP).

759 Data Security. 3 cr. G.
Protection of data in computer and communication systems, cryptography, classical one key and public key cryptosystems, database protection, operating system security. Prereq: grad st; CompSci 217(P) & 536(P).

760 Computer Systems Performance Evaluation. 3 cr. G.
Performance measurement and tools, workload characterization, markov models, queueing theory, simulation, benchmarks, data analysis, parallel systems performance analysis. Not open to students who have cr in ElecEng 760, which is the same as CompSci 760. Prereq: grad st; CompSci 458(P) or ElecEng 458(P).

762 Fault-Tolerant Computing. 3 cr. G.
Faults in digital circuits, fault detection, fault location, system reconfiguration or repair, system recovery, design for testibility, self-checking circuits, fault-tolerant interconnection networks, systems level fault-diagnosis, fault-tolerant software. Not open to students with cr for ElecEng 762. Prereq: grad st; ElecEng 354(P).

780 Multimedia Systems. 3 cr. G.
Survey of principles and applications of multimedia computer systems. Media fundamentals. Networking, architecture, software engineering, and user interface issues. Prereq: CompSci 537(P).

790 Advanced Topics in Computer Science: (Subtitled). 3 cr. G.
Discussion of special advanced topics in theoretical as well as applied areas in computer science. Retakable w/chg in topic to 9 cr max. Specific topics may be jointly-offered w/Philos. Prereq: grad st; add'l prereqs depending on topic.

805 Randomized Algorithms; Pseudorandom Numbers. 3 cr. G.
Probabilistic algorithms in number theory, combinatorics, graph theory, and computational geometry. Sorting and searching. Applications to parallel computation. Interactive proofs. Derandomization of algorithms. Prereq: CompSci 704(P) CompSci 523(R).

810 Knowledge Representation. 3 cr. G.
Study of the design and properties of formalisms for representing knowledge in computational systems. Topics include: first-order logic, nonmonotonic logic, uncertainty, time, space, beliefs, plans. Prereq: grad st; CompSci 710(P).

838 Program Analysis. 3 cr. G.
Static techniques for determining run-time properties of a program: data-flow analysis, abstract interpretation. Prereq: grad st; CompSci 754(P) or 732(P) or equiv or cons instr.

859 Advanced Cryptography and Security Protocols. 3 cr. G.
Elliptic curve cryptography, AES, cryptanalysis, secret sharing, zero knowledge proofs, provable security. Prereq: grad st; CompSci 469(P) & CompSci 535(P), or CompSci 759(P)

870 Medical Informatics Seminar. 1 cr. G.
Presentations by medical informatics affiliated faculty and invited speakers. Graduate students may present their work or published research from recent medical informatics journals or conferences. Meets once every two weeks for 100 minutes. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

990 Masters Thesis. 1-9 cr. G.
- Prereq: grad st; cons instr.

998 Doctoral Thesis. 1-12 cr. G.
- Prereq: grad st; cons instr & grad prog committee.

999 Advanced Independent Study. 1-3 cr. G.
- Prereq: grad st; cons instr & grad prog comm.

Courses - Electrical Engineering

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

410 Digital Signal Processing. 3 cr. U/G.
Spectral computation including DFT and FFT, sampling of continuous signals, digital filter design including FIR and IIR filters. Prereq: jr st; ElecEng 310(P).

420 Random Signals and Systems. 3 cr. U/G.
Fundamental probability and random process theory, power spectral density. Linear systems and random signals, auto- and cross-correlation, optimum MSE filter design. Prereq: jr st; ElecEng 310(P); or grad st.

421 Communication Systems. 3 cr. U/G.
Basic concepts of information; modulation, transmission and demodulation; presentation of information; practical communication systems. Prereq: jr st; ElecEng 335(C).

429 Wireless Communication Systems. 3 cr. U/G.
Design and analysis of wireless communication systems: information content and spectrum considerations, cellular concepts, mobile radio propagation, multiple access techniques, wireless networking, antennas and sensors. Prereq: jr st; Eleceng 234(P).

436 Introduction to Medical Instrumentation. 3 cr. U/G.
Biopotential signals and electrodes; Biopotential Amplifiers and Signal Processing; Sensors, Detectors, and Sources; Electrical Safety; Specifications; Error Analysis; Device Approval Process. Prereq: jr st; ElecEng 330(P) or equiv.

437 Introduction to Biomedical Imaging. 3 cr. U/G.
Biomedical imaging modalities and underlying principles: X-radiography, computerized tomography, Radon transforms; image reconstruction techniques; ultrasonic imaging; nuclear medicine; magnetic resonance imaging; experimental techniques. Prereq: sr st; ElecEng 310(P) or equiv.

438 Bioanalytics and Biomedical Diagnostics. 3 cr. U/G.
Techniques used in biomedical analysis and discovery; fundamentals of light/matter intersections in biological systems; microscopy and spectroscopic analysis; biomolecular sensing; DNA microarrays and analysis; bionanotechnology. Counts as repeat of ElecEng 490 with topic 'Bioanalytics & Biomedical Diagnostics.' Prereq: sr st; ElecEng 310(P) and ElecEng 330(P) or cons instr.

451 Introduction to VLSI Design. 3 cr. U/G.
Introduction to design of VLSI circuits. Ic fundamentals including: energy band diagrams, transistor optimization, design approaches including both customs and semi-custom. Prereq: jr st; ElecEng 330(P), 354(P).

457 Digital Logic Laboratory. 3 cr. U/G.
Experimentation with digital logic systems. Synthesis of digital systems, such as adders, shift registers. Analog/digital and digital/analog converters from basic logic modules. Prereq: jr st; ElecEng 330(P), 354(P).

458 Computer Architecture. 3 cr. U/G.
Processor organization and design; memory organization; microprogramming and control unit design; I-O organization; case studies of selected machine architectures. Not open to students with cr in CompSci 458. Prereq: jr st; CompSci 315(215)(P) or ElecEng 354(P).

461 Microwave Engineering. 3 cr. U/G.
Review from electromagnetics, transmission lines and waveguides; impedance matching, passive components, stripline and microstrip line circuits, dielectric waveguide, laboratory experiments, industrial and biomedical applications. Prereq: jr st; ElecEng 361(P) or equiv.

462 Antenna Theory. 3 cr. U/G.
Analysis and design of antennas: antenna fundamentals; wire antennas; dipole, monopole, and loop antennas; antenna

arrays; aperture antennas; horn, slot, and parabolic dish antennas. Prereq: ElecEng 361(P).

465 Broadband Optical Networks. 3 cr. U/G.
Multichannel lightwave systems based on wavelength-division, time-division, and subcarrier multiplexing; optical devices and coding techniques for implementing optical networks. Counts as repeat of ElecEng 490(690) w/same topic. Prereq: jr st; ElecEng 305(P) & 361(P); or grad st.

471 Electric Power Systems. 3 cr. U/G.
Elements of a typical power system. Per-unit quantities; load flow study; economic dispatch; symmetrical components; fault study; system protection; stability. Prereq: jr st; ElecEng 362(C).

474 (402) Introduction to Control Systems. 4 cr. U/G.
Modeling of continuous systems; stability considerations, analysis and design of feedback control systems in time and frequency domains. Not open for cr to students w/cr in ElecEng 402. Prereq: jr st; ElecEng 310(P), CivEng 202(P) or cons instr; or grad st.

482 Introduction to Nanoelectronics. 3 cr. U/G.
Wave properties of electrons, diffraction, Schr¿dinger's equation, quantum confinement, band theory, tunnel junctions, Coulomb blockade, quantum dots and wires, quantum conductance and ballistic transport. Prereq: jr st; ElecEng 330(C), ElecEng 361(C).

490 (690) Topics in Electrical Engineering: (Subtitled). 1-3 cr. U/G.
Specific topics, credits, and any additional prerequisites will be announced in the Schedule of Classes each time the course is offered. May be retaken with change in topic to max of 9 cr. Prereq: jr st.

537 Fundamentals of Neuroimaging Technology. 3 cr. U/G.
Techniques for imaging the human brain; neuroanatomy/neuropathology; computerized tomography and nuclear medicine techniques; structural magnetic resonance imaging and pulse sequence design; functional MRI; experimental modalities. Counts as repeat of ElecEng 490 with topic 'Neuroimaging.' Prereq: sr st; ElecEng 437(P) or cons instr.

541 Integrated Circuits and Systems. 3 cr. U/G.
Differential and operational amplifier circuits. Linear integrated circuits: comparators, regulators, amplifiers and phase locked loops. Digital integrated circuits: mos shift registers, ram, a-to-d converters. Prereq: jr st; ElecEng 330(P).

561 Microwave Solid State Circuit Design. 3 cr. U/G.
Transmission lines and matching techniques, S-parameters, design of various amplifiers and oscillators using BJTs and MOSFETs. Prereq: sr st; ElecEng 330(P).

562 Telecommunication Circuits. 3 cr. U/G.
Radio frequency communication systems, terrestrial and satellite communication systems, mixers, oscillators, filters, design considerations for receivers and transmitters. Prereq: sr st; ElecEng 330(P).

565 Optical Communication. 3 cr. U/G.
Overview of communication systems, light and electromagnetic waves, optical fibers, lasers, led, photodetectors, receivers, optical fiber communication systems. Prereq: sr st; ElecEng 361(P), & 330(P) or 465(P).

572 Power Electronics. 3 cr. U/G.
Power diodes and transistors; static converters; D.C. power supplies; power transistor circuits; SCR's; classical and modern forced-commutation inverters; choppers; cycloconverters, applications in power. Prereq: sr st; ElecEng 335(C).

574 (503) Intermediate Control Systems. 3 cr. U/G.
State space; frequency domain methods of modelling, analysis and design of control systems; digital control; and multivariate systems. ElecEng 574(503) & MechEng 574(478) are jointly offered & count as repeats of each other. Not open for cr to students who have cr in ElecEng 503(ER) or MechEng 478(ER). Prereq: sr st; MechEng 474(P) or ElecEng 474(402(P); or grad st.

575 Analysis of Electric Machines and Motor Drives. 3 cr. U/G.
Reference frame analysis, computer simulation, permanent magnet synchronous machines, induction machines, power electronic inverters, pulsewidth modulation, vector control. Prereq: jr st, ElecEng 330(P) & 362(P).

588 Fundamentals of Nanotechnology. 3 cr. U/G.
Nanofabrication, self-assembly, principles of scanning tunneling/atomic force microscopy, operators, energy quantization; density of states, quantum dots, nanowires, carbon nanotubes: electronic properties and applications. Prereq: jr st; non-ElecEng majors; ElecEng 361(P) or equiv.

699 Independent Study. 1-3 cr. U/G.
- May be retaken to max of 6 cr toward the undergraduate degree. Prereq: jr st; cons instr.

701 Advanced Linear System Analysis. 3 cr. G.
Theory and analysis of linear dynamic systems; discrete and continuous state models; linear algebra for dynamic systems; state transition matrix, numerical methods; and applications. ElecEng 701 & MechEng 701 are jointly offered and count as repeats of one another. Prereq: grad st.

710 Artificial Intelligence. 3 cr. G.
Programming, search techniques game playing, knowledge representation, knowledge acquisition, expert systems. Selected topics from learning. Natural language understanding, vision and robotics. Not open to students who have cr in CompSci 710. Prereq: grad st; CompSci 252 & 535.

711 Pattern Recognition - Statistical, Neural, and Fuzzy Approaches. 3 cr. G.
Theoretical analysis of statistical, neural, and fuzzy techniques for pattern classification and clustering. Study of learning algorithms; and applications. Not open to students who have cr in Compsci 711 which is identical to Eleceng 711. Prereq: grad st; cons instr.

712 Image Processing. 3 cr. G.
This course covers the materials required to process and enhance photographic images, remote sensor multispacial scanner data and others. Topics include transform techniques, recorders, discriminate function, and associated hardware. Prereq: grad st; cons instr.

713 Computer Vision. 3 cr. G.
Fundamental issues and current research in computer vision. Topics in early or low-level vision, intermediate vision or perceptual organization, and high-level vision or object recognition. Jointly offered w/ and counts as a repeat of CompSci 713. Prereq: grad st; ElecEng 410(P) or cons instr.

718 Nonlinear Control Systems. 3 cr. G.
Advanced concepts and methodologies in modeling and design of nonlinear control systems. Lyapunov theory; describing functions; variable structure control. ElecEng 718 & MechEng718 are jointly offered and count as repeats of one another. Not open for credit to students w/ cr in MechEng 778. Prereq: grad st; ElecEng or MechEng474(P) or equiv; ElecEng or MechEng 701(P); or cons instr.

721 Digital Communications. 3 cr. G.
Fundamentals of design and analysis of digital communication systems in the presence of noise; application of satellite, phone, and computer communication systems. Prereq: grad st, ElecEng 421 or cons instr.

737 Medical Imaging Signals and Systems. 3 cr. G.
Medical imaging physics; physical parameters of imaging systems; imaging system models; physical measurements; image reconstruction; image characteristics; biomedical applications. Prereq: grad st; ElecEng 310(P) and Physics 210(P), or cons instr.

741 Electromagnetic Fields and Waves. 3 cr. G.
Propagation, radiation and scattering of electromagnetic waves and their applications in electrical engineering. Prereq: grad st; Eleceng 361 or equiv.

742 Electromagnetic Wave Theory. 3 cr. G.
Dyadic green's functions and tensors; integral equation methods, scattering from randomly rough surfaces; dynamical radiation models for microstrips; surface wave guides; time domain approaches. Grad st; ElecEng 361.

751 Switching and Automata Theory. 3 cr. G.
Boolean algebra, special boolean functions; fault detection in logic circuits; linear sequential machines; cellular arrays; automata and regular expressions; formal languages; computability and turing machines. Not open to students who have cr in CompSci 751. Prereq: grad st; ElecEng 354 or CompSci 458.

755 Information and Coding Theory. 3 cr. G.
Information measures, entropy, source coding, shannon's theorems, channel capacity, error correcting codes, linear codes, convolutional codes, arithmetic codes, encoding and decoding algorithms. Prereq: grad st.

758 Advanced Computer Architecture. 3 cr. G.
Advanced topics in computer architecture including pipeline processing, multiple and parallel processing systems, performance enhancement issues and vlsi computing structures. Not open for cr to students with cr in CompSci 758, which is identical to ElecEng 758. Prereq: grad st; CompSci 458 or ElecEng 458.

760 Computer Systems Performance Evaluation. 3 cr. G.
Performance measurement and tools, workload characterization, markow models, queueing theory, simulation, benchmarks, data analysis, parallel systems performance analysis. Not open to students who have cr in CompSci 760, which is the same as ElecEng 760. Prereq: grad st; & CompSci 458(P) or ElecEng 458(P).

762 Fault-Tolerant Computing. 3 cr. G.
Faults in digital circuits, fault detection, fault location, system reconfiguration or repair, system recovery, design for testability, self-checking circuits, fault-tolerant interconnection networks, systems level fault-diagnosis, fault-tolerant software. Not open to students with cr in CompSci 762, which is identical to ElecEng 762. Prereq: grad st; ElecEng 354.

765 Optical Information Processing and Holography. 3 cr. G.
Two dimensional linear systems, scalar diffraction theory, imaging properties of lenses, optical imaging systems, spatial filtering, wavefront reconstruction. Prereq: grad st; Eleceng 701.

766 Introduction to Nonlinear Optics. 3 cr. G.
Characteristics and efficiency of various nonlinear optical processes that find applications in communications, signal processing and computing. Topics include optical switching devices, mixers and solitons. Prereq: grad st; ElecEng 361(P).

771 Advanced Electric Power Systems Theory. 3 cr. G.
Basic transients, load switching and voltge recovery; abnormal transients, transformer inrush currents; traveling waves, lightning, tranient voltage distribution in transformer windings; integrated power system transients. Prereq: grad st; ElecEng 471.

781 Advanced Synchronous Machinery. 3 cr. G.
Machine construction, direct and quadrature axis reactances, steady state performance, unbalanced operating conditions, transient performance, motor starting, standards. Prereq: ElecEng 362.

782 Dielectrics and High Voltage Insulation. 3 cr. G.
The dielectric field; gaseous, liquid, and solid dielectrics; engineering applications; testing. Prereq: grad st; ElecEng 361.

810 Advanced Digital Signal Processing. 3 cr. G.
Prediction and optimum filters; lattice structures; adaptive filters; deconvolution techniques, spectrum estimation, applications. Prereq: grad st; ElecEng 410(P).

816 Optimal Control Theory. 3 cr. G.
Analysis and synthesis of discrete and continuous optimal control systems; linear quadratic regulators; dynamic programming and variational methods; applications. ElecEng 816 & MechEng 816 are jointly offered and count as repeats of one another. Prereq: grad st; ElecEng or MechEng474(P) or equiv; ElecEng or MechEng 701(P); or cons instr.

819 Adaptive Control Theory. 3 cr. G.
Adaptive control systems including mathematical foundations, estimation, model reference adaptive control, self tuning regulators, numerical methods, applications. ElecEng 819 & MechEng 819 are jointly offered and count as repeats of one another. Prereq: grad st; ElecEng or MechEng474(P) or equiv; ElecEng or MechEng 701(P); or cons instr.

872 Computer Analysis of Electric Power Systems. 3 cr. G.
Graph theory, matrix algebra and numerical analysis applied to computer solution of power system problems; mathematical models; algorithms and solution techniques for load flow and fault studies. Prereq: grad st & ElecEng 471.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

890 Special Topics: (Subtitled). 3 cr. G.
Lectures on special topics in electrical engineering. Variable content course. Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. May be repeated to max of 9 cr. Prereq: grad st.

990 Masters Thesis. 1-9 cr. G.
- Prereq: grad st; cons instr.

998 Doctoral Thesis. 1-12 cr. G.
- Prereq: grad st; cons instr & grad prog comm.

999 Advanced Independent Study. 1-3 cr. G.
- Prereq: grad st & cons instr.

Courses - Engineering and Applied Science

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

497 Study Abroad: (Subtitled). 1-5 cr. U/G.
Designed to enroll students in UWM sponsored program. Course work, level, content, and credits determined at the time of offering. Retakeable with change in topic to 12 cr max for undergrad & 9 cr max for grad. Prereq: acceptance to Study Abroad Prog; cons CEAS assoc dean for academic prog.

741 Legal Issues in Engineering Management. 3 cr. G.
Legal principles and practice affecting management of engineering enterprises emphasizing intellectual property, product liability, contracts, uniform commercial code, regulatory issues and international legal issues. Prereq: grad st.

Courses - Industrial and Manufacturing Engineering

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

450 Computer-Aided Manufacturing and Robotics. 3 cr. U/G.
Basics of computer-aided manufacturing; numerical control, group technology, flexible manufacturing systems. Robotic applications in manufacturing; types, capabilities, programming, economics and selection. Prereq: Ind Eng 350(P) & 360(C).

455 Operations Research I. 3 cr. U/G.
Fundamental optimization methods; linear programming, integer programming, network models, and dynamic programming methods of operations research. Modeling and applications of these methods in practical situations. Prereq: jr st; Math 233(P).

465 Operations Research II. 3 cr. U/G.
Concepts and methods of probabilistic modeling in queueing, forecasting, and inventory problems for design and analysis of manufacturing and service operations. Prereq: jr st; Ind Eng 467(P) or MthStat 467(P) or equiv course in statistics, Ind Eng 455(P).

467 Introductory Statistics for Physical Sciences and Engineering Students. 3 cr. U/G.
Concepts of probability and statistics; probability distributions of engineering applications; sampling distributions; hypothesis testing; parameter estimation; regression analysis. Not open for cr for Math majors or students with cr in MthStat 362 or 465. IndEng 467 & MthStat 467 are

jointly offered & count as repeats of one another. Prereq: jr st; Math 233(P).

470 Methods Engineering. 3 cr. U/G.
Use of production machine for producing a simple product. Study of production sequence, material flow, plant layout; time and motion; and the economics of materials and methods of fabrication. Redesign of the product and the methods of production to minimize total costs within physical, social and aesthetic constraints. Prereq: jr st; Ind Eng 370(P).

475 Simulation Methodology. 3 cr. U/G.
Fundamentals of discrete simulation. Random number and random variable generation for simulation modeling and analysis using simulation software. Prereq: Ind Eng 467(P).

540 Expert Systems for Engineering Applications. 3 cr. U/G.
Application of expert system techniques to engineering problems, strengths and limitations of current artificial intelligence tools, artificial intelligence as a productivity-enhancement tool. Prereq: sr st; CompSci 151(P) or 152(P).

545 Metal Cutting. 3 cr. U/G.
Study of the theory and practices of metal cutting, contemporary and future problems of removal processes, process optimization and cost analyses, critical review of current literature. Prereq: sr st; Ind Eng 350(P) or MatlEng 330(P), or cons instr.

547 Nontraditional Manufacturing Processes. 3 cr. U/G.
Theory and applications of nontraditional manufacturing processes. Study of their principles, equipment, process parameters and capabilities. Prereq: sr st; Ind Eng 350(P) or Matleng 330(P) or cons instr.

555 Manufacturing Systems Integration. 3 cr. U/G.
Integration and interfacing of computerized manufacturing systems, programmable logic controllers and sequential programming, sensor implementation strategies, automated fixturing and robotic workcell creation. Prereq: jr st; Ind Eng 450(R).

570 Statistical Quality Control. 3 cr. U/G.
Statistical thinking and methods for quality improvement. Variable and attribute control charts; process capability and tolerance analysis. Case studies and computer workshops. Prereq: jr st; Ind Eng 467(P) or equiv course in statistics.

571 Quality Control and Design of Experiments I. 3 cr. U/G.
Statistical process control and design of experiments for quality improvement. Computer workshops on control charts and experiments. Prereq: jr st & Ind Eng 467(P) or equiv course in statistics; or grad st.

572 Reliability Engineering. 3 cr. U/G.
Concepts and methods for the design, testing, and estimation of component and system reliabilities. Failures and failure rates; life tests; series-parallel, and standby systems; stress levels; redundancy and reliability apportionment; maintainability, availability, and safety; reliability design and implementation. Prereq: jr st; Ind Eng 467(P) or equiv.

575 Design of Experiments. 3 cr. U/G.
Statistical principles, designs and analyses for planned experimentation; factorial and fractional factorial designs, inner-outer designs, robustness, confounding and blocking, and response surface methodology. Prereq: sr st; Ind Eng 467(P) or equiv.

577 Dimensional Measurement and Tolerancing. 3 cr. U/G.
Measurement techniques; implementation and integration of precision measuring equipment and gages in manufacturing systems; geometric dimensioning and tolerancing; and devices for statistical process control. Prereq: sr st & Ind Eng 467(P).

580 Ergonomics. 3 cr. U/G.
Broad study of ergonomics principles and stresses in design and analysis of workplaces and physical environment; 2 hrs lec & 2 hrs lab/week. Prereq: jr st.

583 Facility Layout and Material Handling. 3 cr. U/G.
Basics in facility planning; design and integration of plant layout, material handling, and warehousing; quantitative models for facility location problems. Prereq: sr st, Ind Eng 370(P), Ind Eng 455(P)

585 Design of Production Systems. 3 cr. U/G.
Projects involving design of production system for a specified product or service using industrial and manufacturing engineering techniques. Presentations, progress reports and final report. Prereq: sr st; Ind Eng 370(C), 450(C), 455(C), 465(C), 470(C).

587 Lean Production Systems. 3 cr. U/G.
An integrated approach to efficient manufacturing of products with high quality, low cost, and timely delivery including one-piece flow, pull system, and visual factory. Prereq: sr st; Ind Eng 465(P).

590 Topics in Industrial and Systems Engineering: (Subtitled). 1-3 cr. U/G.
Selected topics of current interest in an area of systems design. May be repeated with change in topic to max of 9 cr. Prereq: sr st.

671 Quality Control and Design of Experiments II. 3 cr. U/G.
Statistical methods in quality control and design. Control charts of WEMA, Cusum, and bi-variates. Sequential, 3-level, and inner/outer designs. Response surface methodology. Prereq: sr st & Ind Eng 571(P); or grad st.

699 Independent Study. 1-3 cr. U/G.
- Limited to max of 6 cr applied toward undergraduate degree. Prereq: jr st; cons instr.

705 Engineering Simulation Project. 3 cr. G.
Project-based simulation modeling analysis concepts, art of simulation model building, and statistical analysis of simulation model input and output. Prereq: Ind Eng 467(P) or equiv course.

716 Engineering Statistical Analysis. 3 cr. G.
Statistical methods and their applications to solve engineering decision-making problems, integrating computer usage. Inference, probability and probability distributions, data analysis, regression analysis, and anova. Prereq: grad st.

717 Operations Research in Engineering Management. 3 cr. G.
Various operations research techniques for engineering management decision-making. Linear programming, integer programming, network models, multi-objective decision-making, decision analysis, and queuing models. Prereq: grad st; Ind Eng 716(P).

740 Intelligent Manufacturing Systems. 3 cr. G.
Discussion and study of advanced computer control techniques related to manufacturing. Focus on application of artificial intelligence tools to manufacturing problems. Prereq: grad st; Ind Eng 450(P) or cons instr.

750 Group Technology and Process Planning. 3 cr. G.
Group technology and computer-aided process planning; classification and coding schemes, machine loading, production planning/scheduling models, process planning, expert systems in capp. Prereq: grad st; Ind Eng 450 & 455.

751 Flexible Manufacturing Systems. 3 cr. G.
Hierarchy of manufacturing control, process control, advanced concepts in fms, optimal design planning and production scheduling in fms. Prereq: grad st; Ind Eng 450 & 455.

765 Operations Research Methods. 3 cr. G.
Formulation and application of mathematical models for the design of industrial systems. Mathematical programming, network flow, decision theory and simulation techniques are used for solving single and multi-stage production, inventory and service problems. Prereq: grad st; Ind Eng 465 & 767.

767 Statistical Methods for Engineers and Scientists. 3 cr. G.
Elementary baysian decision theory. Prior, posterior and precictive distribution. Posterior and pre-posterior analysis of two action decision problems. Concept of likelihood functions for binomial poisson, exponential and normal distributions. Simple and multiple regression analysis. Introduction to autoregressive methods. Prereq: grad st; MthStat 361 or Ind Eng 467.

770 Advanced Quality Control. 3 cr. G.
Statistical considerations in acceptance sampling, rectifying inspection, and sequential procedures. Optimum design of shewhart, cumulative sum and other control charts, concepts, methods, and applications of adaptive quality control. Prereq: grad st; Ind Eng 570 & 572 or cons instr.

772 Facilities Planning. 3 cr. G.
Modern techniques in facilities planning, location of the facility; systems approach, factors and evaluation. Systematic layout planning, computerized methods. Assembly line balancing, simulation techniques. Cpm and pert. Projects and laboratory work. Prereq: grad st; Ind Eng 455 & 470.

777 Scheduling and realtime resource management. 3 cr. G.
Scheduling (allocation of resources over time) and realtime resource management techniques in highly informative production and service systems. Prereq: grad st; Ind Eng 370(P), 475(P), 455(P), 465(P) or cons instr

780 Advanced Ergonomics - Low Back Pain. 3 cr. G.
An in-depth study of lbp causes, risk factors, preventive approaches, job evaluation/design techniques. 2 hr lec & 2 hr lab/week. Prereq: grad st; Ind Eng 580(P); a course in anatomy & physiology or cons instr.

783 Advanced Ergonomics - Upper Extremity. 3 cr. G.
In depth study of musculoskeletal disorders of upper extremity, personal and job risk factors, job analysis, design and prevention. 2 hr lec & 2 hr lab/week. Prereq: grad st; Ind Eng 580(P); a course in Anatomy & Physiology or cons instr.

786 Applied Biostatistics in Ergonomics. 3 cr. G.
Statistical methods used in ergonomic studies to analyze, summarize, and report measurements and data. 2 hr lec & 2 hr lab/week. Jointly offered with & counts as repeat of Nurs 786 & OccThpy 786. Prereq: grad st; Ind Eng 580(P); a course in statistics or cons instr.

787 Issues in Ergonomics: Epidemiology. 1 cr. G.
Concepts in epidemiological studies employed to study risk factors in ergonomic research. Design considerations, strengths and weaknesses of different types of studies. Jointly offered with & counts as repeat of Nurs 787 & OccThpy 787. Prereq: grad st; Ind eng 580(P); a course in statistics or cons instr.

788 Legal Issues and Regulatory Agencies in Ergonomics. 1 cr. G.
Understanding of ergonomic regulations, regulatory sets, and agencies' and workers' compensations laws. Jointly offered with & counts as repeat of Nurs 788 & OccThpy 788. Prereq: grad st; Ind eng 580(P); a course in statistics or cons instr.

790 Design Project. 2-3 cr. G.
Integration and application of concepts learned in other ergonomic courses to analyze and abate ergonomic hazards in a scientific manner. Jointly offered with & counts as repeat of Nurs 790 & OccThpy 790. Prereq: grad st; Ind Eng 780(P), 783(P), 786(P), 788(P); or cons instr.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

890 Advanced Topics in Industrial and Systems Engineering: (Subtitled). 1-3 cr. G.
Topics vary. Advanced topics of current interest in an area of systems-design; review of recent literature. Subject matter may be student initiated. Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st.

990 Masters Thesis. 1-9 cr. G.
- Prereq: grad st; cons instr.

998 Doctoral Thesis. 1-12 cr. G.
- Prereq: grad st; cons instr & grad prog comm.

999 Advanced Independent Study. 1-3 cr. G.
- Prereq: grad st; cons instr & grad prog committee.

Courses - Materials

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

402 Physical Metallurgy. 3 cr. U/G.
Crystal binding and electron theory of solids, phase diagrams, diffusion, nucleation and growth, recrystallization, precipitation hardening, solidification, austenite decomposition. Prereq: jr st; MatlEng 201(P).

410 Mechanical Behavior of Materials. 3 cr. U/G.
Elastic, plastic, viscous behavior of materials, creep, fatigue, fracture, dislocation theories of crystal deformation. Prereq: jr st; admis to MatlEng major, & MatlEng 201(P); or grad st; or cons dept chair.

421 Metal Casting Engineering. 3 cr. U/G.
Pattern and core design; molding technology; pouring and feeding castings; metallurgy of cast engineering alloys and their foundry practice; cleaning and inspection; casting design. Prereq: jr st; MatlEng 201(P).

431 Welding Engineering. 3 cr. U/G.
An engineering course on joining processes; reaction of materials to welding, brazing and soldering; distortion; process and material selection and structural engineering considerations. Prereq: jr st; MatlEng 201(P).

442 Thermodynamics of Materials. 3 cr. U/G.
Third law of thermodynamics; application of thermodynamics to materials processes and systems; behavior of solutions; reaction equilibria. Prereq: jr st, admis to MatlEng major, MatlEng 201(P), & MechEng 301(P); or grad st; or cons dept chair.

443 Transport and Kinetics in Materials Processing. 3 cr. U/G.
The role of kinetics in materials processing including transport of mass, energy, and momentum. Prereq: jr st, MatlEng 442(P), & ElecEng 234 (P); or grad st.

451 Ceramic and Polymeric Materials. 3 cr. U/G.
Properties of ceramic, polymeric and composite systems. Structure, bonding, imperfections and atomic mobility. Phase equilibria, grain growth, sintering and micro structure. Mechanical and physical properties. Prereq: jr st; MatlEng 201(P).

455 Engineering Composites. 3 cr. U/G.
Study of the structure-property relationships in composite materials. Properties of fibers and other reinforcements, interfaces, matrix materials. Metal polymer and ceramic matrix composites. Prereq: MatlEng 201(P).

461 Corrosion Engineering. 3 cr. U/G.
Technical and economic aspects of corrosion and corrosion control. Forms of corrosion, thermodynamics, kinetics, materials selection, design, and corrosion protection. Prereq: jr st; MatlEng 201(P).

465 Friction and Wear. 3 cr. U/G.
Friction and wear of engineering materials. Effect of environment, surface interactions, lubrication, and material properties. Techniques of analysis and measurement. Not open to students who have cr in MechEng 465, which is identical to MatlEng 465. Prereq: jr st; MatlEng 201(P).

471 Heat Treatment of Materials. 3 cr. U/G.
Study of the heat treatment processes and their effect on the microstructure and properties of metals. Emphasis is on steels, but all alloy systems of importance are covered. Prereq: jr st; MatlEng 201(P).

481 Electronic Materials. 3 cr. U/G.
Electronic conduction in materials. Electronic phenomena in metals, semiconductors, and insulators. Materials production, characterization, and application to micro-electronic devices, with particular emphasis on thin film technology. Prereq: jr st; MatlEng 201(P) or cons instr.

690 Topics in Materials: (Subtitled). 3 cr. U/G.
Lectures on special topics in materials engineering and science. May be repeated with change in topic to max of 9 cr. Prereq: jr st; cons instr.

699 Independent Study. 1-3 cr. U/G.

- Retakeable to max of 6 cr applied toward undergraduate degree. Prereq: jr st; cons instr.

701 Properties of Solids. 3 cr. G.
The applications of physics to the understanding of the properties of solids, including lattice mechanics, band theory, electrical, thermal, magnetic, and defect properties. Prereq: Matleng 402(P).

702 Advanced Engineering Thermodynamics. 3 cr. G.
Laws of thermodynamics, property relations, and equations of state, introduction to statistical and irreversible thermodynamics; applications to perfect gases, perfect crystals, and homogeneous solutions. Prereq: grad st; MatlEng 441(P), 442(P).

710 Advanced Mechanical Behavior of Materials. 3 cr. G.
Advanced topics on the mechanical properties of materials including plasticity, anelasticity, fracture, creep, fatigue, and the effects of temperature, rates, and processing history. Prereq: grad st; MatlEng 410(P).

720 Kinetic Processes in Materials. 3 cr. G.
Absolute reaction rate theory, defects in materials, diffusion, phase transformation in metals. Prereq: grad st; MatlEng 441(P).

731 Deformation Processing. 3 cr. G.
Application of engineering principles to shape generation by deformation processing. Analysis of forging, stamping, drawing. Effect of deformation material properties and behavior. Prereq: grad st; MatlEng 410(P).

732 Solidification Processing. 3 cr. G.
Solidification phenomena and its engineering application to metals, semiconductors, ceramics, properties of cast products. Foundry processes. Prereq: grad st; Matleng 330(P).

740 Heterogeneous Equilibria. 3 cr. G.
Quantitative description of heterogeneous equilibria for unary, binary, and ternary systems from the thermodynamic point of view; composite systems and current experimental techniques in high temperature materials. Prereq: grad st; MechEng 301(P); MatlEng 201(P).

750 Thin Solid Films. 3 cr. G.
Application of materials science to thin films. Nucleation, growth, and characterization. Discussion of optical, electrical, and mechanical behavior in terms of atomic order and chemistry. Consideration of specific deposition methods and applications. Prereq: grad st; MatlEng 201(P) & Physics 210(P).

760 Surface Analysis of Solids. 3 cr. G.
Introduction to thermodynamics, structure and quantum theory of surfaces. Fundamentals of spectroscopic methods for analysis of surfaces. Applications to practical surface analysis problems: catalysis, thin films, polymers, ceramics, metallurgy and corrosion, coatings, glasses and composites. Prereq: grad st or cons instr.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirements. Fee assessed for 1 cr. Prereq: grad st.

890 Advanced Topics in Materials: (Subtitled). 3 cr. G.
Lectures on special topics in materials engineering and science. May be repeated with change in topic to max of 9 cr. Prereq: grad st; cons instr.

990 Masters Thesis. 1-9 cr. G.
- Prereq: grad st; cons instr.

998 Doctoral Thesis. 1-12 cr. G.
- Prereq: grad st; cons instr.

999 Advanced Independent Study. 1-3 cr. G.
- Prereq: grad st; cons instr & grad prog committee.

Courses - Mechanical Engineering

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

415 Modern Thermomanufacturing Processes. 3 cr. U/G.
An introduction to thermal management and techniques applied to chemical vapor deposition, welding, thermal spraying, and machining (cutting and grinding). Prereq: jr st; Civ Eng 303(P), Mecheng 321(P) or equiv, or cons instr.

420 (effective 01/26/2009) Fluid Mechanics. 3 cr. U/G.
Basic laws of fluid mechanics; dimensional analysis; steady-flow in pipes; flow over immersed bodies; fluid machinery; transient pipe flow; special topics. Prereq: jr st; MechEng 320 (P).

423 Applied Fluid Mechanics. 3 cr. U/G.
Principles of fluid mechanics as applied to elements of fluid machinery, power transmission devices and control systems. Prereq: jr st; MechEng 320 (P).

432 Internal Combustion Engines. 3 cr. U/G.
Thermodynamic principles of internal combustion engines; cycles, combustion, engine operation; carburation, ignition, performance analysis; engine balancing; super charging. Prereq: jr st; MechEng 301 (P).

434 Air Conditioning System Design. 3 cr. U/G.
The design of systems for heating and cooling spaces. Selection and design of central heating, cooling and energy distribution systems. Prereq: jr st; MechEng 321(P), Ind Eng 210(P).

435 Power Plant Theory and Design. 3 cr. U/G.
Application of engineering principles to design and analysis of power-production systems. Fossil fuel, nuclear, and gas-turbine power plants. Alternative power generation. Environmental aspects. Prereq: jr st; MechEng 301(P).

436 Solar Engineering. 3 cr. U/G.
Estimation of energy needs for solar heating and cooling systems for buildings; insolation; solar collector/energy storage design; applications to space heating/cooling, water heating. Prereq: jr st; MechEng 301 (P).

451 Applied Optics in Engineering. 3 cr. U/G.
Principles of geometric and physical optics. Introduction to lasers. Topics from current engineering uses of optics, including measurement systems and laser machining. Prereq: sr st; Physics 210(P) or cons instr.

455 Processing of Plastics. 3 cr. U/G.
Description of plastics as polymers and polymer composites. Study of various technologies to manufacture plastics. Analytical description of flow and heat transfer in polymers. Prereq: MechEng 320(P) & 321(P).

461 Intermediate Kinematics and Dynamics. 3 cr. U/G.
Analysis and synthesis of planar spacial mechanisms, using computational and analytical methods. Dynamics of machinery. Introduction to computer-aided design. Prereq: jr st; MechEng 360(P).

462 (562) Intermediate Design of Machinery. 3 cr. U/G.
Consideration of complicated loadings and combined stresses. Design against fatigue. Design and analysis of machine systems. Consideration of special topics in machine element design. Prereq: jr st; MechEng 365(P).

463 Introduction to Finite Elements. 3 cr. U/G.
Generation and assembly of finite element matrices in one and two-dimensional problems. Modeling and practical applications in solid mechanics, heat transfer and fluid flow. Not open to students with cr in Civ Eng 463(ER). Prereq: ElecEng 234(P), Civ Eng 303(P); MechEng 320(C), 311(C) or 321(C).

465 Friction and Wear. 3 cr. U/G.
Friction and wear of engineering materials. Effect of environment, surface interactions, lubrication, and material properties. Techniques of analysis and measurement. Not open to students who have cr in MatlEng 465, which is identical to MechEng 465. Prereq: jr st; MatlEng 201(P).

469 Introduction to Biomechanical Engineering. 3 cr. U/G.
Mathematical modeling of human body; dynamics of human motion; neuromuscular control human movement; stress analysis of bones and joints; concurrent mechanical problems in medicine. Prereq: sr st; Civ Eng 202(P) or cons instr.

474 Introduction to Control Systems. 4 cr. U/G.
Modeling of continuous systems; stability considerations, analysis and design of feedback control systems in time and

frequency domains. Prereq: sr st; ElecEng 234(P), 301(P); Civ Eng 202(P).

475 Vibrations in Mechanical Design. 3 cr. U/G.
Integrated treatment of mathematical modeling and analysis of mechanical systems, analysis of vibrations and performance under different loading conditions. Prereq: sr st; Civ Eng 202(P), ElecEng 234(P).

476 Introduction to Robotics. 3 cr. U/G.
Fundamentals of manipulators, sensors, actuators, end-effectors and product design for automation, computer vision and pattern recognition. Prereq: ElecEng 234(P), MechEng 360(P).

477 Introduction to Automobile Dynamics. 3 cr. U/G.
Study of motion of automobiles; understanding of safety-enhancing mechatronic systems, such as ABS, traction control and stability control systems; transmission and suspension design. Prereq: jr st or cons instr; ElecEng 234(P); MechEng 360(P).

479 Control and Design of Mechatronic Systems. 3 cr. U/G.
Understanding interfacing of mechanical systems using electro-mechanical components; conceptual design and analysis of high performance computer controlled mechanical systems; prototyping of mechatronic systems. Prereq: sr st or cons instr; ElecEng 474(402)(P) or MechEng 474(P).

490 Topics in Mechanical Engineering: (Subtitled). 1-3 cr. U/G.
Recent theoretical and applied topics in mechanical engineering. May be retaken with change in topic to max of 9 cr. Prereq: jr st & cons instr.

574 (478) Intermediate Control Systems. 3 cr. U/G.
State space; frequency domain methods of modeling, analysis and design of control systems; digital control; and multivariate systems. ElecEng 574(503) & MechEng 574(478) are jointly offered & count as repeats of each other. Not open for cr to students who have cr in ElecEng 503(ER) or MechEng 503(ER). Prereq: sr st; Mecheng 474(P) or ElecEng 474(402)(P); or grad st.

580 Engineering Analysis in Applied Mechanics I. 3 cr. U/G.
Engineering analysis of initial and boundary value problems in applied mechanics. Application of various methods to investigate a variety of engineering situations. Not open to students with cr in Civ Eng 580, which is identical to MechEng 580. Prereq: jr st & ElecEng 234(P).

699 Independent Study. 1-3 cr. U/G.
- Limited to max of 6 cr applied toward undergrad degree. Prereq: jr st; cons instr.

701 Advanced Linear System Analysis. 3 cr. G.
Theory and analysis of linear dynamic systems; discrete and continuous state models; linear algebra for dynamic systems; state transition matrix, numerical methods; and applications. ElecEng 701 & MechEng 701 are jointly offered and count as repeats of one another. Prereq: grad st.

702 Advanced Engineering Thermodynamics. 3 cr. G.
Laws of thermodynamics, property relations, equations of state; introduction to statistical and irreversible thermodynamics; applications to perfect gases, perfect crystals, and homogeneous solutions. Prereq: grad st; Mecheng 301(P) & 321(P) or equiv.

703 Principles of Combustion. 3 cr. G.
Chemical kinetics and thermodynamics, conservation equations for multicomponent reacting systems, detonation, premix, diffusion and turbulent flames. Prereq: grad st; MechEng 302(P) & 321(P) or equiv.

707 Transport in Porous Media. 3 cr. G.
Introduction to fluid mechanics in porous media, single- and multi-phase flows, volume averaged transport equations, convection heat transfer, consolidating porous media, volume averaging theory, applications. Prereq: grad st.

710 Advanced Transport Processes. 2 cr. G.
Vector and tensor analysis of practical engineering problems; basic laws of mass, momentum and energy transport; transport phenomena in porous media reacting and non-reaction media. Prereq: MechEng 321(P) or equiv.

711 Thermal Radiation and Conduction. 3 cr. G.
Radiative properties of and radiative transfer in absorbing, emitting and scattering media; transient and steady state heat conduction; multi-mode heat transfer applications. Prereq: grad st; MechEng 311(P) or 321(P).

712 Convection Heat and Mass Transfer. 3 cr. G.
Conservation equations; laminar developed and developing flows; laminar boundary layers; high speed flows; turbulent flow and heat transfer; natural convection; mass transfer; special engineering applications. Prereq: grad st; MechEng 311(P) or 321(P).

714 Energy Transport in Microscale Systems. 3 cr. G.
Introducing thermophysics of microscale systems including statistical, non-equilibrium thermodynamics, particle transport theory, energy carriers in different materials and phases, and applications including mems and nanotechnology. Prereq: grad st; Mecheng 320(P) & 321(P).

715 Numerical Methods in Engineering. 3 cr. G.
Differential equation solutions with finite difference and finite volume methods; grid generation technique; finite element methods; applications to solid mechanics, heat transfer, and fluid mechanics. Prereq: grad st; Math 413(P) or cons instr.

716 Two-Phase Flow. 3 cr. G.
Dispersed and separated two-phase flow field and constitutive equations; interfacial phenomena. Two-fluid and drift-flux models, similarity criteria, pressure drop, nucleation and forced convection boiling, flow dynamics and applications. Prereq: grad st; MechEng 320(P).

718 (778) Nonlinear Control Systems. 3 cr. G.
Advanced concepts and methodologies in modeling and design of nonlinear control systems. Lyapunov theory; describing functions; variable structure control. ElecEng 718 & MechEng718 are jointly offered and count as repeats of one another. Not open for credit to students w/ cr in MechEng 778. Prereq: grad st; ElecEng or MechEng474(P) or equiv; ElecEng or MechEng 701(P); or cons instr.

721 Fundamentals of Fluid Flow. 3 cr. G.
Inviscid, viscous and compressible flow; potential flow in aerodynamics; analytical solutions of navier-stokes equation; laminar and turbulent boundary layers, jets, wakes, and separating flows; applications. Prereq: grad st; Mecheng 320(P).

722 Advanced Fluid Mechanics. 3 cr. G.
Formulations of navier-stokes and energy equations; turbulence models; solutions to wall, free shear layer, and recirculating flows; turbulence energy spectrum; applications to industrial problems. Prereq: grad st; MechEng 320(P).

723 Computational Fluid Dynamics and Heat Transfer. 3 cr. G.
Finite difference methods for solving boundary layer equations, navier-stokes equations, etc. Laminar and turbulent flows. Prereq: grad st; cons instr.

725 Fluid Power and Turbomachinery. 2 cr. G.
Concept of hydraulic systems; hydraulic motors; valves; hydraulic circuits; pneumatic systems; axial and radial gas turbines, pumps, compressors; steam turbines; hydraulic turbines; wind turbines. Prereq: grad st; MechEng 320(P).

726 Mechanical Vibrations. 3 cr. G.
Free and forced vibrations of multiple degree of freedom systems using modern matrix methods. Not open to students who have cr in Civ Eng 726 which is identical to Mecheng 726. Prereq: grad st; Mecheng 475(R) or equiv.

760 Dynamic Problems in Design. 3 cr. G.
Analytical methods for solution of typical vibrating and balancing problems encountered in mechanical systems. Special emphasis on methods of suppression and control. Prereq: grad st; MechEng 360(P).

761 Advanced Kinematics. 3 cr. G.
Kinematics of rigid body motion, including finite and instantaneous coupled linear and rotational motions. Kinematic analysis and synthesis of spatial mechanisms and open

loop chains. Prereq: grad st; Mecheng 360(P).

762 Mechanical Systems Analysis. 3 cr. G.
An integrated treatment of mathematical modeling and analysis of mechanical systems. Modeling of machine elements and systems; performance under transient, periodic and random loads. Prereq: grad st; MechEng 365(P).

765 Mechanical Reliability and Probabilistic Design. 3 cr. G.
Advanced design theory and methodology incorporating probabilistic and statistical concepts. Design of mechanical and structural members for specific reliability and confidence level. Case histories and applications. Prereq: grad st; MechEng 360(P) & 365(P); or cons instr.

773 Advanced Dynamics. 3 cr. G.
General theory of dynamic behavior from the viewpoint of Lagrangian and Hamiltonian mechanics. Application of energy principles to dynamical analysis of mechanical systems. Not open to students who have cr in Civ Eng 773, which is identical. Prereq: grad st; MechEng 580(P) or Civ Eng 580(P); or cons instr.

776 Kinematics, Dynamics and Control of Industrial Robots. 3 cr. G.
Indepth study of kinematics, trajectories, dynamics and control of robots. Prereq: grad st; MechEng 360(P) & 474(P) or equiv.

785 Optimization Methods in Engineering. 3 cr. G.
Optimization as engineering design tool; nonlinear programming; computational techniques for unconstrained and constrained problems; conjugate gradient, sumt, reduced gradient, feasible directions methods; design applications. Not open to students who have cr in Ind Eng 785 which is identical to MechEng 785. Prereq: grad st; ElecEng 234(P), CompSci 151(P) or equiv.

816 Optimal Control Theory. 3 cr. G.
Analysis and synthesis of discrete and continuous optimal control systems; linear quadratic regulators; dynamic programming and variational methods; applications. ElecEng 816 & MechEng 816 are jointly offered and count as repeats of one another. Prereq: grad st; ElecEng or MechEng474(P) or equiv; ElecEng or MechEng 701(P); or cons instr.

819 Adaptive Control Theory. 3 cr. G.
Adaptive control systems including mathematical foundations, estimation, model reference adaptive control, self tuning regulators, numerical methods, applications. ElecEng 819 & MechEng 819 are jointly offered and count as repeats of one another. Prereq: grad st; ElecEng or MechEng474(P) or equiv; ElecEng or MechEng 701(P); or cons instr.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

890 Advanced Topics in Mechanical Engineering: (Subtitled). 1-3 cr. G.
Recent theoretical and applied developments in mechanical engineering. Topics selected from areas in thermal-fluid engineering, machine design and controls, and chemical process engineering. May be repeated with change in topic to max of 9 cr. Prereq: grad st; cons instr.

990 Masters Thesis. 1-9 cr. G.
- Prereq: grad st; cons instr.

998 Doctoral Thesis. 1-12 cr. G.
- Prereq: grad st; cons instr & grad prog comm.

999 Advanced Independent Study. 1-3 cr. G.
- Prereq: grad st; cons instr & grad prog committee.

ENGLISH

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- Fax: (414) 229-2643
- E-mail: connieb@uwm.edu

School/College: College of Letters and Science

Degrees Conferred:

- MA in English
- PhD in English

Overview

The Department of English offers master's and doctoral degrees in several areas of specialization: Literary Studies, Rhetoric and Composition, Professional Writing, Creative Writing, Adult TESOL and Linguistics, and Modern Studies. Students apply for admission to a specific area or concentration, but are encouraged to take classes in others. The Department also offers graduate certificates in International Technical Communication and Adult/University Level TESOL *(Admission suspended until further notice).*

MA/MLIS Coordinated Degree Program

In cooperation with the School of Library and Information Science, the Department of English offers a MA/MLIS program to prepare students for positions as humanities librarians. Students enrolled in this program concurrently pursue a MA degree in English and a MLIS degree. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree.

Students interested in the MA(English)/MLIS program are expected to follow all the requirements and standards as described in this section of the Bulletin with the following exceptions: the 21 credits required for the MA in English in the coordinated degree program are to be taken within the Department. Courses in related areas must be approved by the Coordinator of Graduate Studies in English. For more information on this program, see the Library and Information Science page.

Graduate Faculty

Distinguished Professor

Gallop, Jane, Ph.D., Cornell University

Professors

Alred, Gerald, M.A., University of Dayton
Blaeser, Kimberly, Ph.D., University of Notre Dame
Bullock, Marcus, Ph.D., University of Oregon
Ciccone, Anthony, Ph.D., State University of New York at Buffalo
Eckman, Fred, Ph.D., Indiana University
Guevara, Maurice Kilwein, Ph.D., University of Wisconsin-Milwaukee
Hall, Lane, M.F.A., University of Wisconsin-Madison
Hazard, James A., M.A., University of Connecticut
Iverson, Gregory K., Ph.D., University of Minnesota
Jay, Gregory S., Ph.D., State University of New York-Buffalo
Liddy, James, M.A., University College Dublin, National University of Ireland
Lanters, Josepha, Ph.D., University of Leiden, the Netherlands
Moravcsik, Edith, Ph.D., Indiana University
Noonan, Michael, Ph.D., University of California-Los Angeles
Petro, Patrice, Ph.D., University of Iowa
Roberts, Sheila, D.Litt., University of Pretoria
Sangari, KumKum, Ph.D., University of Leeds, United Kingdom
Schuster, Charles, I., Ph.D., University of Iowa

Associate Professors

Banerjee, Sukanya, Ph.D, University of California-Riverside
Blasini, Gilberto, Ph.D, University of California-Los Angeles
Buley-Meissner, Mary Louise, Ph.D., University of Washington
Callanan, Liam, M.F.A., George Mason University
Clark, David P., Ph.D., Iowa State University
Clark, George M., Ph.D., Florida State University
Davis, Garry W., Ph.D., University of Michigan
Gillam, Alice, Ph.D., Ball State University
Grayson, Sandra, Ph.D., University of California - Riverside
Hamilton, Kristie, Ph.D., University of Texas-Austin
Jordan, John, Ph.D., University of Georgia
Kennedy, Gwynne, Ph.D., University of Pennsylvania, Coordinator of Graduate Studies
Kincaid, Andrew, Ph.D., University of Minnesota
Lynch, Dennis, Ph.D., University of California-Berkeley
Martin, Andrew, Ph.D., University of Iowa, Chair
Mayes, Patricia, Ph.D. University of California-Santa Barbara
McKenzie, Jon, Ph.D., New York University
Netzloff, Mark, Ph.D., University of Delaware
Oren, Tasha, Ph.D., University of Wisconsin Madison
Sands, Peter, Ph.D., State University of New York-Binghamton
Spilka, Rachel, Ph.D., Carnegie Mellon University
Van Pelt, William, Ph.D., University of California-Santa Cruz
Wilson, Michael, Ph.D., Cornell University
Wysocki, Anne, Ph.D., Michigan Technological University

Assistant Professors

Kalter, Barrett, Ph.D., Rutgers University
Ouali, Hamid, Ph.D., University of Michigan
Oxford, Raquel, Ph.D., University of North Texas
Puskar, Jason, Ph.D., Harvard University
Rei-Doval, Gabriel, Ph.D., University of Santiago de Compostela

Master of Arts in English

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

1. Undergraduate major in English or related field, with appropriate background for proposed concentration of study: Plan A, broad background in English and American literature; Plan B, literature, linguistics, and/or composition; Plan C, literature and creative writing; Plan D, English language and linguistics; Plan E, modern studies; Plan G, professional writing.
2. Undergraduate grade point average of 3.0 (4.0 scale).
3. Submission of scores on the Graduate Record Examination General Test.
4. Three letters of recommendation to the Department's Coordinator of Graduate Studies from persons familiar with applicant's academic ability and achievement.
5. A sample of academic writing.
6. For Plan C admission, an applicant must also submit samples of original fiction or poetry.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree. Applicants should contact the Graduate Program Office for additional information and deadlines.

Major Professor as Advisor

The student must have a Major Professor to advise and supervise the student's work as specified in Graduate School regulations. The coordinator of the student's concentration serves as an initial advisor.

Credits and Courses

Students admitted to the master's program earn the degree by completing a minimum of 24 credits of graduate coursework in English (25 for Plan B), writing a final project, and passing an oral examination at the conclusion of their coursework.

Although students must enroll initially in one of the five plans of study described below, students who demonstrate a capacity for doctoral work, and wish to earn a PhD at UWM, are advised to proceed as rapidly as possible to doctoral status. Ordinarily students are not allowed to proceed beyond 30 credits without having been admitted to the doctoral program. No more than 27 credits earned at the master's level may be included in the 54 credits required for the PhD.

Plan A (Literary Studies)

A minimum of 24 credits, including:

- 12 credits in literature courses at the 600-700 level, with at least 6 credits at the 700 level
- 6 credits in theories and methods courses at the 700 or 800 level
- 3 credits in a literature seminar (800 level)
- 3 credits electives
- A final project, which shall be a paper of at least 30 pages which grows out of and significantly expands some aspect of the student's literary studies.
- An oral examination, usually lasting an hour and a half, which covers the final project and a separate 30-book reading list.

Plan B (Rhetoric and Composition)

A minimum of 25 credits, including:

- Teaching Seminar (English 701) 4 cr
- Rhetoric (English 750, 751, or 753) 3 cr
- Composition Theory (English 755) 3 cr
- Issues in Rhetoric and Composition Pedagogy (English 812, 850, 853, 854, or 856) 3 cr
- 12 credits of electives
- A final project, which shall be a research paper appropriate to the student's professional goals.
- An oral examination, usually lasting an hour and a half, which covers the final project and a reading list of at least 30 texts not listed in the project bibliography or works cited list.
- One course is strongly recommended in each of the following areas: Computers and Pedagogy (English at the 700 level); Research Methods

Note Students who plan to apply to the Ph.D. program are advised to select 6 credits in literature or language courses as part of their electives.

Plan C (Creative Writing)

A minimum of 24 credits, including:

- 6 credits in 600- or 700-level literature courses (at least 3 credits at the 700 level).
- 6 credits in either 715/815 or 716/816
- 6 credits in writing courses at the 600 or 700 level.
- 6 credits electives.
- No more than 12 credits may be earned in 600-level courses.
- A final project, which shall be a collection of fiction and/or poetry, a novel, a dramatic script, or other substantial work of imaginative writing.
- An oral examination, usually lasting an hour and a half, which covers the final project and a reading list of at least 30 texts representative of the student's literary background and interests.

Plan D (English Language and Linguistics)

Consult the Plan D Coordinator for all course selections.

A minimum of 24 credits, including:

- 3 credits [minimum] of 700-level courses
- 3 credit seminar in Linguistics (English 805 or 806)
- 18 credit electives distributed among 400- to 800-level courses in the fields of syntax, phonology, discourse analysis, sociolinguistics, second language acquisition/ESL, rhetoric/composition, and/or language education.
- A written examination.
- A final project. The project shall, with one exception, be a research paper on a topic in language chosen in consultation with the student's advisor. The exception is that if a student specializes in Teaching ESL to Adult Learners, the project may be some other type of documentation than a research paper. For example, the project might be a video, or a set of lesson plans, or other product of extensive investigation of some aspect of teaching ESL that the student carried out as part of the internship in teaching ESL.
- An oral examination, usually lasting an hour and a half, on the final project.

Plan E (Modern Studies)

A minimum of 24 credits including:

- 3 credits of English 740 or 741 (Backgrounds of Modernism)
- 3 credits in 700- or 800-level courses in literature since 1800, that cover a variety of authors and a substantial historical period
- 3 credits in 700- or 800-level courses that focus on theories or methods in the analysis of literature, culture, criticism, or the arts
- 3 credits 800-level seminar in Modern Studies
- 12 credits electives
- A final project, which shall be a paper of at least 30 pages which grows out of and significantly expands some aspect of the student's study of modern culture.
- An oral examination, usually lasting an hour and a half, which covers the final project and a separate 30-book reading list.

Plan G (Professional Writing)

A minimum of 24 credits, selected in consultation with the student's advisor, including:

Core Courses in Theory and Research, 6 cr

- **705** Professional Writing Research
- **712** Professional Writing Theory

800-Level Seminar in Professional Writing or a related topic area approved by the advisor, 3 cr

- (855 Seminar in Theories of Business and Technical Writing recommended)

Professional Writing Practice or Pedagogy at the 700 level, or at the 400 level with the approval of a Plan G faculty advisor, 12, cr. Students can take no more than 6 cr in any combination of 400-level U/G courses and interdisciplinary courses. The following courses are especially recommended:

- English 431 Topics in Advanced Writing: (Subtitle)
- English 433 Creative Nonfiction for Publication
- English 434 Editing and Publishing
- English 439 Document Design
- English 443 Grant Writing
- English 444 Technical Editing
- English 701 The Teaching of College Composition
- English 706 Seminar in Professional Writing Theory and Pedagogy
- English 707 Writing for Business Management
- English 708 Advanced Professional Writing
- English 709 Rhetoric, Writing, and Information Technology
- English 710 Advanced Project Management for Professional Writers
- English 711 Topics in Professional Writing: (Subtitle)

Internship or 700-level elective in Professional Writing that could lead to a final project, 3 cr.

- (Students should consult with their advisor about which option would best suit their background and career goals. In general, students with little workplace experience will take the internship and those with

substantial workplace experience will take a 700-level elective.)

Final Project

A research paper or other project appropriate to the student's professional goals.

Oral Examination

Usually lasting an hour and a half, the oral exam covers the final project and a reading list of at least 30 texts not listed in the project bibliography or works cited list.

Regulations concerning final projects and oral examinations

1. Students should consult with their advisors before completing 24 credits to determine a final project. Ordinarily, it is a revised and expanded course or seminar paper of at least 30 pages. The project should demonstrate the student's skills in research, critical analysis, argumentation, and prose style. For students in Plan C (Creative Writing), the project is a substantial portfolio, the exact character of which is determined in consultation with the student's Master of Arts Committee. For students in Plan D (English Language and Linguistics) specializing in Teaching ESL to Adult Learners, the project will consist of some documentation (a paper, a videotape, a set of lesson plans, etc.) of the outcome of the pedagogical investigation undertaken during the student's internship. The project serves both as a concluding effort at the master's level and also as an indication of a student's potential for doctoral study.
2. In consultation with the student, the graduate coordinator appoints an M.A. Examining Committee. At least two of the three members must be English Graduate Faculty. The M.A. Examining Committee administers the final Oral Examination, covering the project and a separate reading list of at least 30 texts, to be selected by the student and approved by the Committee.
3. The project must be submitted and the oral examination completed within one year after the completion of 24 credits. Students should remember that a maximum of 27 credits at the master's level is applicable to the PhD 54 credit requirement.
4. The Examining Committee offers a recommendation regarding the student's qualifications for further graduate study at the doctoral level. The Committee Chair puts this recommendation in writing and places it in the student's academic file.
5. Students who fail the oral examination may be required to revise their final project, retake the examination, or both. The oral examination may be retaken only once. No additional credits may be earned for the revision of the project after a failed examination. For further information regarding the M.A. project and examination, see the English Graduate Program Handbook.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in English

Admission

Students in the UWM Master of Arts degree program in English may apply to the Department of English Graduate Policy Committee for admission to one of the six doctoral concentrations. Admission must be recommended by three members of the Graduate Faculty.

An application for admission also must be submitted to the Graduate School. Admission to the Creative Writing doctoral concentration must be approved by the Creative Writing Advisory Committee before Graduate Policy Committee consideration.

Applicants with master's degrees from other institutions are evaluated on the basis of standard application materials: GPA, GRE scores, statement of purpose, three supporting letters, and a sample of academic writing. Such applicants are admitted to doctoral study provisionally and are required to complete an Academic Review within six weeks of finishing 12 credits.

The Academic Review is a one- to two-hour meeting with three faculty members of the English Graduate Faculty. At least two members come from the student's concentration. The Review covers the student's academic progress in doctoral coursework, two unrevised course papers, and a list of 20-25 books chosen by the student in consultation with the reviewers. See the English Graduate Program Handbook for further details regarding the Academic Review. Applicants should contact the Graduate Program Office for additional information and deadlines.

Credits and Courses

The Ph.D. program requires 54 credits beyond the B.A. (55 for Rhetoric and Composition), including no more than 27 credits earned at the master's level. Course distribution requirements vary according to the doctoral concentration a student enters.

Doctoral Concentration

Students applying to the English doctoral program must indicate their preference for one of the following doctoral concentrations: Literary Studies; Rhetoric and Composition; Creative Writing; Linguistics; Modern Studies; Professional Writing. The Coordinator of Graduate Studies and a Program Coordinator for each concentration provide initial advising for the student in course enrollment and in selecting a Major Professor for long-term advising. Although a continuing doctoral student can change concentrations, such changes require approval by the Coordinator of the new concentration and the Coordinator of Graduate Studies, and may require a substantial amount of additional coursework.

Because course requirements change frequently, students should regularly consult with Program Coordinators or the Coordinator of Graduate Studies regarding doctoral concentration requirements. The following listings reflect current curricular requirements:

Literary Studies

- 9 credits in literature courses at the 700 level
- 9 credits in theory and methods courses at the 700 or 800 level
- 12 credits in literature seminars (800 level) with at least 3 credits in pre-1800 and 3 credits in post-1800 seminars
- 24 credits electives

With the approval of the Graduate Coordinator, some 700-level requirements may be met with work from previous institutions.

Rhetoric and Composition

- 16 credits in 700-level rhetoric and composition courses, 10 credits of which must include the following: English 701 (Teaching Seminar); one of English 750, 751, or 753 (Rhetoric); and English 755 (Composition Theory)
- 15 credits in 800-level seminars, 12 of which must be in rhetoric and composition.
- 24 credits electives
- Two terms (as defined by the employing institution) of demonstrated teaching experience in first-year college composition.
- Minimum of one term (as defined by the employing institution) of teaching experience in basic, intermediate, or advanced composition.
- Portfolio of teaching materials for at least two composition courses, plus a teaching statement to be submitted and approved by the Graduate Rhetoric and Composition Advisory Committee at least two semesters before the expected graduation date.
- One course is strongly recommended in each of the following areas: Computers and Pedagogy (English at the 700 level); Research Methods

Creative Writing

- 6 credits in 715/815 and/or 716/816
- 24 credits in 700- or 800-level literature courses
- 12 credits in creative writing 700-level or above courses
- 12 credits electives

Linguistics

- 12 credits in basic linguistics courses
- 9 credits in 700-level linguistics courses
- 12 credits in 800-level linguistics seminars (English 805 or 806)
- 21 credits electives

Modern Studies

24 credits in modern studies courses, including:

- 9 credits in Backgrounds of Modernism, Literature, and Theories or Methods, as described in M.A. requirements
- 12 credits in 800-level modern studies seminars; and
- 3 one-credit sections of 820 (Center for Twentieth Century Studies Colloquium course)
- 30 credits electives

Professional Writing

9 credits in required core courses in theory, research, and teaching

- **706** Professional Writing Theory and Pedagogy
- **712** Professional Writing Theory
- **713** Qualitative Research

21 credits in professional writing courses

- 6 credits in English 700-level or 400-level U/G courses
- 15 credits in English 800-level courses(with the advisor's approval, a student may take credits in related areas)

24 credits electives

General Restrictions

Doctoral students may not accumulate more than 12 credits in U/G courses and not more than 6 credits in independent study without the approval of the Coordinator of Graduate Studies. No more than 18 credits may be taken in courses outside the Department.

Note for doctoral students in the Linguistics concentration, the maximums are 24 credits in U/G courses, 6 credits of independent study, and 27 credits outside the Department.

Advising

Students are required to consult periodically with their Major Professor. The Major Professor helps the student to define an area of special interest within the concentration for the preliminary examination. The Major Professor also assists the student in the selection of appropriate coursework and may chair the Preliminary Examination Committee.

Foreign Language Requirement

All Ph.D. candidates are required to demonstrate proficiency (reading knowledge) in a foreign language. The choice of a language must be approved by the student's advisor. If a student has not met this requirement in other ways (see English Graduate Program Handbook), a student must pass a two-hour written examination in the translation of a piece of literature or criticism. A student may use a dictionary and/or grammar book. The exam must be arranged in advance with the Coordinator of Graduate Studies and must be taken before the preliminary examination. If a student's Major Professor considers proficiency in more than one language necessary to the student's specific plan of study, exams in more than one language may be required. The exam may be retaken until proficiency is attained.

Residence

The student must meet minimum Graduate School residence requirements.

Doctoral Preliminary Examination

The doctoral preliminary examination consists of a written examination and an oral examination designed to demonstrate the breadth of a student's knowledge and the ability to conduct advanced research in one or more areas of study. The written and oral examinations draw from field bibliographies with rationale (500 word maximum) prepared by the student and approved by the student's preliminary examination committee and the advisory committee of the student's plan.

The written examination must be at least eight hours long, and it is frequently taken as a two-day, take-home, open book exam. It may be taken at the University or at home, if the committee agrees on the location. An oral exam of two hours covering issues raised during the written exam and/or focusing on the proposed dissertation must follow the written exam within 7-10 days.

Students take the preliminary exam after completing all doctoral course work or with no more than three credits of doctoral course work remaining. Students cannot take the exam if they have any incomplete or unreported grades or a GPA less than 3.0. The exam must be finished within one semester after all course work is completed, excluding summer session. Students may receive a one semester extension for additional course work from the Coordinator of Graduate Studies. Students who fail the preliminary examination may not proceed to the dissertation. The exam may be retaken only once. See the English Graduate Program Handbook or the Coordinator of Graduate Studies for specific guidelines for governing the preliminary examination process. Students enrolled in the doctoral program as of September 2000 should consult the Coordinator of Graduate Studies as to their options under these rules or the previous preliminary examination rules.

Dissertation

The dissertation topic, together with a brief prospectus, must be approved by the Graduate Policy Committee. The student's major professor or a member of the dissertation committee must present the topic and prospectus to the Graduate Policy Committee. See the Coordinator of Graduate Studies and the English Graduate Program Handbook for specific guidelines for selecting a doctoral committee and preparing the dissertation proposal. The Department considers 200 pages a reasonable length for the dissertation.

Dissertation Defense

The completed dissertation is subject to an oral defense, to be arranged by the Coordinator according to Graduate School regulations. A copy of the dissertation is kept in the Department office.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

For additional information see the Graduate School PhD requirements.

Adult/University-Level TESOL Graduate Certificate Program

(Admission suspended until further notice)

The Adult/University-Level TESOL Graduate Certificate Program is designed to meet the needs of graduate non-degree students or graduate students concurrently enrolled in a UWM master's or Ph.D. program who wish to teach English as a Second Language (ESL) to adults or university-level students abroad. Requirements for this program are very similar to those for the "Adult/University-Level TESOL Certificate Program," which accepts undergraduate students and post-baccalaureate special students, but training in the graduate certificate program is more rigorous, and up to 12 of the 21 credits earned can be applied (concurrently or subsequently) to the English Department's M.A. program in English Language and Linguistics (Plan D).

Admission

Students who wish to apply to the program should submit the following materials to the TESOL Certificate Program Coordinator in the Department of English:

- Adult/University-Level TESOL Graduate Certificate Program application form

(available from the English Department Graduate Studies office).
- Transcripts of all college-level academic work, with evidence of a GPA of 2.75 or better.
- A statement of purpose.
- Two letters of recommendation from persons knowledgeable about the applicant's recent academic and/or work experience.
- Applicants who are not native speakers of English should also submit scores of least 550 on the TOEFL or 6.5 on the IELTS exam, and 45 on the TSE.

Credits and Courses

Students are required to complete the six courses (18 credits) plus teaching internship (3 credits) outlined below.

Foundation Courses, 6 credits
- English/Linguis 400 (Introduction to English Linguistics) or Linguis 350 (Introduction to Linguistics)
- English 403 (Survey of Modern English Grammar)

Required Certificate Courses, 12 credits:
- English 404 (Language, Power, and Identity)
- Linguistics 420 (Introduction to Second Language Acquisition) or English 402 (Theories of Language and Literature: Second Language Acquisition)
- English 565/Linguistics 565(426) (Introduction to Adult/University-Level TESOL)
- English 567 (Materials for ESL Instruction)

Teaching Internship, 3 credits:
- English 569 (Internship in Teaching ESL to Adult Learners)

The Foundation Courses may be taken for either graduate or undergraduate credit. If taken at the graduate level, they will count toward the Certificate GPA. All remaining courses must be taken for graduate credit. NB: Students are not allowed to enroll for both U and G courses in a single semester, so Foundation Courses taken in the same semester as Required Certificate Courses must be taken at the G level.

Students who previously have taken any of the required courses at the graduate level while enrolled in other programs at UWM may transfer the credits earned into the certificate program, so long as the courses have been taken within the last five years. Students who have taken comparable courses at other institutions may be allowed to transfer in up to 6 credits of course work, upon approval by the certificate program coordinator. Students who have completed any of the required courses for undergraduate credit must substitute courses at the graduate level, selected in consultation with the certificate program coordinator.

The teaching internship is completed at one of the internship institutions affiliated with the Certificate Program. The site of the internship may be chosen by the student, but must be approved by the Certificate Program staff. The student is expected to complete between 40 and 60 hours of supervised teaching over a period of four to eight weeks. Students receive the certificate upon completion of all the required coursework and the teaching internship with a GPA of 3.0 or better.

There is a time limit of three years from initial enrollment for completion of the certificate.

Intensive Option

Students who wish to complete the certificate program as quickly as possible should discuss with the program coordinator the possibility of enrolling for the "intensive" option. Under this option, students are able to complete the program in eight to ten months by enrolling in the required courses as follows:

- Last 4- or 6-week summer session: English/Linguis 400 or Linguis 350.
- Fall Semester: English 403, English 404, Linguistics 420, English 565 or Linguistics 565 (426), and English 567.
- First Mini-Session of Spring Semester: English 569 (Teaching Internship).

Graduate Certificate Program in International Technical Communication

The Graduate Certificate Program in International Technical Communication is designed for students who wish to pursue technical communication careers developing information for international audiences and organizations.

Admission

Students applying from universities outside the United States must have completed a U.S. bachelor's degree equivalent and must meet the following requirements:

1. Earn a minimum score of 250 on the computer-based (or 600 on the paper-based) TOEFL or 7.0 on the IELTS exam or secure the consent of the Program Coordinator and two program faculty members.
2. Submit a portfolio of writing samples in English as well as a "Statement of Purpose" in both English and the student's native language.
3. Demonstrate knowledge of computers and business operations through undergraduate courses such as business or technical communication, the portfolio, or experience as described in the Statement of Purpose.
4. Submit three letters of recommendation from persons knowledgeable about the applicant's recent academic and/or work experience.

Students applying from universities within the United States must have completed a bachelor's degree with a minimum 2.75 GPA and must meet the following requirements:

1. Demonstrate a reading proficiency in a second language as demonstrated by a score of "Level 5" on the UW System Placement Test for French, German, or Spanish. Other languages will be considered depending on appropriateness and availability of testing.
2. Submit a portfolio of writing samples as well as a "Statement of Purpose" in English.
3. Demonstrate knowledge of computers and business operations through undergraduate courses such as business or technical communication, the portfolio, or experience as described in the Statement of Purpose.
4. Submit three letters of recommendation from persons knowledgeable about the applicant's recent academic and/or work experience.

Credits and Courses

Students must complete 18 credits of course work as outlined below. At least 6 of these credits must be completed at the 700 level or above. Students must earn a 3.0 grade point average or better in the courses that apply to the Certificate.

Professional/Technical Writing Courses (in consultation with the Program Coordinator), 9 cr
- English 435 Professional and Technical Writing
- English 436 Writing for Information Technology
- English 437 Project Management for Professional Writers
- English 439 Document Design
- English 708 Advanced Professional Writing
- English 709 Rhetoric, Writing, and Information Technology
- English 710 Advanced Project Management for Professional Writers

Students who within the past five years have successfully completed any of these courses while enrolled as undergraduate students are not expected to repeat those courses for graduate credit. In consultation with the Program Coordinator, they will select alternate graduate courses that will substitute for the courses already completed.

Two Elective courses selected from areas other than English (in consultation with the Program Coordinator), 6 cr
- Lubar School of Business

- Communication Department
- Translation and Foreign Languages

Courses outside these areas may be substituted with permission of the Program Coordinator.

Capstone Requirement (must engage international study), 3 credits
Students must complete 21 credits of course work as outlined below. The certificate will be awarded when students achieve the following:

- Complete 9 credits in required courses.
- Complete 9 credits in elective courses from at least two areas other than English.
- Complete a 3-credit Capstone Requirement that engages international study.
- Complete at least 6 of these credits at the 700 level or above.
- Earn an overall 3.0 grade point average or better in the courses that apply to the Certificate.

With the consent of the Program Coordinator, students who have completed appropriate courses for graduate credit at UWM or other institutions may transfer a maximum of six credits into the certificate program, provided that the courses were completed with in the last five years with a grade of B or better.

Required Courses, 9 cr

Students who within the past five years have successfully completed any of these required courses while enrolled as undergraduate students are not expected to repeat those courses for graduate credit. In consultation with the Program Coordinator, they will select alternate graduate courses that will substitute for the courses already completed.

- Advanced Technical Writing (English 435)
- Topics in Advanced Writing: Document Design and Evaluation (English 431)
- Writing for Computer Technology (English 436)

Electives, 9 credits

Students, in consultation with the Program Coordinator, will take 9 credits selected from two of the following areas, although courses outside these areas may be substituted with permission of the Program Coordinator.

- Lubar School of Business
- Communication Department
- Translation and Foreign Languages

Graduate Certificate Capstone Requirement, 3 credits

The Capstone Requirement is intended to help students integrate their interdisciplinary coursework and prepare them to be competitive in the international technical communication market. With the approval of the Program Coordinator, this requirement can be fulfilled in one of three ways:

- Students register in Writing Internship in English (English 449 U/G) and complete an internship abroad at an international company.
- Students may take an appropriate course abroad at a cooperating university or through distance education via the Internet. The course must be approved for UWM graduate credit or transferable to UWM.
- Students may complete a faculty-supervised study that involves intensive interdisciplinary research on an international issue at a local business with global operations.

Students who also are interested in an M.A. in English must apply for admission to both the Certificate and degree programs. Students who have completed the Certificate Program may transfer up to 12 credits to the M.A. program, upon approval of the English Department Coordinator of Graduate Studies and the Graduate School. Those concurrently enrolled in the Certificate Program and the MA in English are strongly encouraged to consult the Certificate Program Coordinator and the Plan G Coordinator to develop the most economical program of study. Students seeking admission to master's programs in other departments and schools are advised to seek the advice of graduate coordinators in those areas.

Time Limit

Students must complete all requirements for the Certificate within 4 years of initial enrollment.

Graduate Certificate in Professional Writing and Communication

The Graduate Certificate in Professional Writing and Communication is designed for students who wish to pursue professional careers in technical writing, communication, corporate training and instructional design, or user interface and Web-document design.

Admission

Students must have completed a bachelor's degree with a minimum GPA of 2.75 and must submit the following materials with their graduate school application:

- a portfolio of writing samples;
- two letters of recommendation from persons knowledgeable about applicants' recent academic or work experience;
- a statement of purpose that identifies the applicants' knowledge of workplace communication practices and business operations, their professional experience, or basic undergraduate coursework in business writing, technical writing, and communication; and
- a statement describing the applicants' access to and operational knowledge of online communication technology, including a PC or equivalent computer system with Internet access and other applications sufficient to participate in the program's online learning activities.

Applicants must declare their intent to pursue the Certificate program before completion of six credits in the Certificate sequence.

Credits and Courses

Students must complete 15 credits of course work as outlined below. The Certificate will be awarded when students achieve the following:

- complete 9 credits in required courses in English;
- complete 6 credits from a choice of courses in Communication; and
- earn a minimum cumulative GPA of 3.0 in the courses that apply to the Certificate.

With the consent of the Certificate Coordinator and subject to the Graduate School transfer policy, students who have completed appropriate courses for graduate credit at other institutions may transfer up to three credits into the Certificate Program, provided that the courses were completed within the last five years with a grade of B or better.

Required Courses in English, 9 credits

Students will take 9 credits selected from the following required English courses:

- Advanced Professional Writing (English 708) or Professional Writing (436)
- Rhetoric, Writing, and Information Technology (English 709) or Writing for Information Technology (English 436)
- Advanced Project Management for Professional Writers (English 710) or Project Management for Professional Writers (English 437)

Students who within the past five years have successfully completed courses equivalent to these required English courses may, with the approval of the Certificate Coordinator, substitute alternate English graduate courses.

Required Courses in Communication, 6 credits

Students, in consultation with the Program Coordinator, will take 6 credits selected from the following Communication Courses:

- Designing and Developing Communication Training Interventions (Commun 627)
- Studies of Communication in Organizations (Commun 810)

- Seminar in Mediated Communication (Commun 813)
- Seminar in Small Group Communication (Commun 823)
- Seminar in Programs of Adult Communication (Commun 827)

Students who intend to enroll in both the Certificate program and a graduate degree program must apply for admission to both the Certificate program and to the graduate degree program of their choice. With the approval of the graduate coordinator of the student's graduate program, up to six credits completed in the Certificate also may satisfy graduate program requirements.

Students not concurrently enrolled in a UWM graduate degree program later may transfer credits completed in the Certificate to a UWM graduate degree program, subject to Graduate School transfer policy and subject to the guidelines and approval of the graduate coordinator of the respective degree program.

Students seeking admission to the Certificate and to graduate degree programs are advised to seek the advice of graduate coordinators of each program.

Time Limit

A student must complete all requirements for the Certificate within 3 years of his/her initial enrollment.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

325 The Art of Fiction: (Subtitled). 3 cr. U/G.
Study of novels or short stories through a unifying theme, set of technical problems, or critical concepts. Retakable w/chg in topic to 6 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

326 The Development of the Novel: (Subtitled). 3 cr. U/G.
Major artistic, social and intellectual events in the history of the novel from its origins to the present. Retakable w/chg in topic to 6 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

327 The Development of the Short Story. 3 cr. U/G.
Major artistic, social and intellectual events in the history of the short story from the nineteenth century to the present. Prereq: jr st; satisfaction of GER English Composition competency req.

328 Forms of Experimental Literature: (Subtitled). 3 cr. U/G.
Approaches to forms of literature that stress experimentation, innovation and the radical alteration of existing forms. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER Composition competency req.

329 Film and Literature. 3 cr. U/G.
Capabilities and limitations of narrative film and literature, emphasizing the distinctiveness of each artistic mode. Prereq: jr st, English 290(P), satisfaction of GER English Composition competency req; or cons instr.

340 The Art of the Drama: (Subtitled). 3 cr. U/G.
Origins and development of the genre. Retakable w/chg in topic to 6 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

341 The Development of Drama: (Subtitled). 3 cr. U/G.
A historical approach, with emphasis on new ideas in the theatre, new techniques, and the evolution of genres. Retakable w/chg in topic to 6 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

342 Comedy: (Subtitled). 3 cr. U/G.
Works from the comic tradition with focus on theme, genre, region, or historical development. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

343 Tragedy: (Subtitled). 3 cr. U/G.
Works from the tragic tradition with focus on theme, genre, region, or historical development. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

344 Modern Drama: (Subtitled). 3 cr. U/G.
Topics vary. American and English dramatists since 1920, with emphasis on their stage approach, their use of language; and themes of illusion, communication, and identity. Retakable w/chg in topic to 6 cr max. Prereq: jr st, satisfaction of GER English Competency req; 6 cr in courses approved for hum distr cr.

360 The Art of Poetry: (Subtitled). 3 cr. U/G.
Inquiry into the art of poetry, with readings from a variety of poets. Retakable w/chg in topic to 6 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

361 The Development of Poetry: (Subtitled). 3 cr. U/G.
A study of significant intellectual, artistic, or social events in the history of poetry. Retakable w/chg in topic to 6 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

363 Medieval Epic and Romance. 3 cr. U/G.
Study of the traditions of medieval English epic and romance through an examination of representative medieval works. Prereq: jr st; satisfaction of GER English Composition competency req.

370 Folk Literature: (Subtitled). 3 cr. U/G.
A study of a particular form or forms of folk literature or the folk literature of a designated region or ethnic group. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

380 Media and Society: (Subtitled). 3 cr. U/G.
An examination of film and/or television, with attention to the representation of class, gender, race, and nation. Subtitles vary. Retakable w/chg in topic to 9 cr max. Prereq: jr st; English 290(P) or 291(P) or 6 cr in courses approved for hum distr cr.

383 Cinema and Genre: (Subtitled). 3 cr. U/G.
Stylistic and thematic analyses of literary and film genres (e.g., melodrama, film noir). Consideration of writers, directors, producers and stars whose works represent forms of a genre. Retakable w/chg in topic to 9 cr max. Prereq: jr st, satisfaction of GER English Composition competency req; English 290(P) or 6 cr in courses approved for humanities distr cr.

390 Classical Film Criticism and Theory. 3 cr. U/G.
Survey of the history of film theory, with particular attention to developing critical skills in film theoretical writing. Prereq: jr st, satisfaction of GER English Composition competency req; English 290(P) & ArtHist 205(P); or cons instr.

391 Television Criticism and Theory. 3 cr. U/G.
Study of the forms and representational strategies of television narrative, and the various modes of analysis that may be applied to television viewers and texts. Prereq: jr st, satisfaction of GER English Composition competency req; English 291(P) or cons instr.

392 Contemporary Film Criticism and Theory: (Subtitled). 3 cr. U/G.
Current issues in film criticism and theory and an exploration of critical perspectives (psychoanalysis, feminism, structuralism, post-structuralism) informing recent debates in film studies. Retakable w/chg in topic to 9 cr max. Prereq: jr st, satisfaction of GER English Composition competency req; English 290(P) or 291(P) or cons instr.

394 Theories of Mass Culture: (Subtitled). 3 cr. U/G.
A survey of theories of mass culture relative to film from the late 19th century to the present. Retakable w/chg in topic to 9 cr max. Prereq: jr st, satisfaction of GER English Composition competency req; English 290(P) or 291(P) or cons instr.

395 Feminist Film Criticism and Theory: (Subtitled). 3 cr. U/G.
Theories of representation and spectatorship that focus on the position of women in film, television, and/or video. Retakable w/chg in topic to 9 cr max. Prereq: jr st, satisfaction of GER English Composition competency req; English 295(P) or cons instr.

400 Introduction to English Linguistics. 3 cr. U/G.
Application of linguistic theory and techniques to modern English. English/Linguis 400 required of all English majors and minors in School of Education.

Jointly-offered with & counts as repeat of Linguis 400. Prereq: jr st; satisfaction of GER English Composition competency req.

401 History of the English Language. 3 cr. U/G.
The origins of the English language and its changing structure. Prereq: jr st; satisfaction of GER English Composition Competency req.

402 Theories of Language and Literature: (Subtitled). 3 cr. U/G.
- Retakable w/chg in topic to 6 cr max. Prereq: jr st, satisfaction of GER English Composition competency req; an intro course in Linguis (e.g. English 400 or 401, Linguis 390 or Anthro 360).

403 Survey of Modern English Grammar. 3 cr. U/G.
Studies in elements of grammar, noun and verb phrase, clause and sentence connection, and complex noun phrase. Prereq: jr st; satisfaction of GER English Composition competency req.

404 Language, Power, and Identity. 3 cr. U/G.
The use of distinctive language varieties to construct identity and maintain power relations within a society. Prereq: jr st; satisfaction of GER English Composition competency req.

406 Advanced English Grammar. 3 cr. U/G.
Continuation of English 403 with emphasis on the analysis of complex sentences and discourse syntax. Prereq: jr st, satisfaction of GER English Composition competency req; English 403(P).

407 Introduction to Functional Syntax. 3 cr. U/G.
Introduction to the study of syntactic patterns, typology, and universals from the standpoint of functionalist syntactic theory. Prereq: jr st, satisfaction of GER English Composition competency req; English 400(P) or Linguis 350(P).

414 Special Topics in Creative Writing: (Subtitled). 3 cr. U/G.
Readings, discussion and assigned writing in specialized areas of creative writing. Retakable w/chg in topic to 9 cr max. Not retakable for major cr. Prereq: jr st; satisfaction of GER English Composition competency req; English 233(P), 234(P), 235(P), or 236(P); or grad st.

430 Advanced Writing Workshop. 3 cr. U/G.
A tutorial course in advanced exposition. Individual assignments and conferences. Enrollment limited to 12 students. Prereq: jr st; satisfaction of GER English Composition competency req.

431 Topics in Advanced Writing: (Subtitled). 3 cr. U/G.
Aspects of composition theory, history and practice applied to both the process and product of writing. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

433 Creative Nonfiction for Publication. 3 cr. U/G.
Writing in a variety of creative nonfiction formats, using literary techniques. Preparation of articles for submission to magazines, newspapers, newsletters, and educational publications. Prereq: jr st; satisfaction of GER English Composition competency req.

434 Editing and Publishing. 3 cr. U/G.
Training and practice in editorial procedures; preparation of fiction/nonfiction manuscripts for book or journal publication; editorial rewriting; editing; copyediting; proofreading; fundamentals of layout/design. Prereq: jr st; satisfaction of GER English Composition competency req; 6 cr in English 201(P), 202(P), 205(P), 206(P), 207(P), 208(P), 230(P), 233(P), 234(P), 235(P), 236(P), 240(P), 414(P), 415(P), 416(P), 430(P), 431(P), 432(P), 433(P), 435(P), 436(P), 437(P), 615(P), or 616(P).

435 Professional and Technical Writing. 3 cr. U/G.
The writing process in business, industry, and government, with intensive practice and analysis of professional writing and publishing techniques and products. Prereq: jr st; English 205(P), 206(P), or 207(P), or cons instr.

436 Writing for Information Technology. 3 cr. U/G.
Theory, methods, and practice in writing clear, concise technical instructions; audience analysis, customer requirements, information architecture, training materials, web projects, and emerging technology discussion topics. Prereq: jr st; English 206(P) & 435(P) or cons instr.

437 Project Management for Professional Writers. 3 cr. U/G.
Major stages of the writing process in workplace contexts: research, analysis, project planning and management, document design, usability testing, and revision. Prereq: jr st; satisfaction of GER English Composition competency req; English 205(P), 206(P), or cons instr.

438 Advanced Research Writing. 3 cr. U/G.
Intensive instructions in methods and writing for research papers: audience analysis, bibliographic methods, computer searches, interpretation of data, style guides, abstracts and summaries and the publication process. Prereq: jr st; English 208(P) or cons instr.

439 Document Design. 3 cr. U/G.
Development of technical writing projects for external clients, applying theories from graphic design, usability, cognitive psychology, and technical communication. Prereq: jr st; English 205(P), 206(P), or 207(P), or cons instr.

440 Introduction to Peer Tutoring and Practice. 3 cr. U/G.
Students explore their own writing practices in light of rhetorical theory and learn to tutor others. Prereq: jr st; satisfaction of English Composition competency req, & English 201(P), 202(P), 205(P), 206(P), 207(P), or 233(P) w/grade of B- or better or cons instr; or grad st.

441 Advanced Peer Tutoring Theory and Practice. 3 cr. U/G.
Students will examine various theories of literacy and learning, applying these theories to peer tutoring practice and testing their sufficiency through case-study research. Prereq: English 440(P) or cons instr.

442 Writing Center Tutoring Practicum. 1 cr. U/G.
For prospective tutors, a foundation of concentrated study and practice to begin tutoring in UWM's Writing Center. Prereq: jr st; cons instr.

443 Grant Writing. 3 cr. U/G.
Theory, methods, and practice in writing clear, concise grant proposals and related documents; audience analysis, rhetorical approaches, research methods, and online grantseeking. Counts as repeat of English 431 w/same topic. Req'd service learning component. Prereq: jr st; satisfaction of GER English Composition competency req.

444 Technical Editing. 3 cr. U/G.
Theories, methods, and practice in editing professional and technical documents; grammar and usage; copyediting and comprehensive editing; editor-writer relationship; rhetorical, social, and audience analysis. Counts as repeat of English 431 w/same topic. Prereq: jr st; satisfaction of GER English Composition competency req.

445 The Composing Process: (Subtitled). 3 cr. U/G.
Issues in composition studies, such as the theory and practice of writing, evaluation and assessment, and collaborative learning. Retakable w/chg in topic to 9 cr max for undergrads or 6 cr max for grads. Prereq: jr st, satisfaction of GER English Composition competency req, or cons instr; or grad st.

447 The Essay as Genre. 3 cr. U/G.
The range and depth of the essay as a genre; extensive reading; writing evaluative, exploratory essays. Prereq: jr st; satisfaction of GER English Composition competency req, or cons instr; or grad st.

449 Writing Internship in English. 1-4 cr. U/G.
Experience in a professional setting that enables English majors to apply course work and writing skills and to gain experience toward career goals. Retakable to 9 cr max. Prereq: jr st, satisfaction of GER English Composition competency req, declared English major, & C or better in English 414(P), 415(P), 416(P), 430(P), 431(P), 432(P), 433(P), 434(P), 435(P), 436(P), 437(P), 438(P), 445(P), or 447(P); or grad st in English prog; writ cons instr.

451 Chaucer. 3 cr. U/G.
Linguistic and intellectual traditions exemplified in Chaucer's poetry. Prereq: jr st; satisfaction of GER English Composition competency req.

452 Shakespeare. 3 cr. U/G.

Works representing Shakespeare's career, selected from comedies, tragedies, histories, and poems. May be used as a repeat of 453 for students who have not taken English 452 previously. Prereq: jr st; satisfaction of GER English Composition competency req.

454 Milton. 3 cr. U/G.
Milton's English poetry and selections from his prose. Prereq: jr st; satisfaction of GER English Composition competency req.

455 Writers in Drama: 3 cr. U/G.
A significant dramatist or a combination of playwrights. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

456 Writers in English Literature, 1500-1660: (Subtitled). 3 cr. U/G.
A significant literary figure or figures in the context of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

457 Writers in English Literature, 1660-1798: (Subtitled). 3 cr. U/G.
A significant literary figure or figures in the context of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req. Not available for grad cr.

458 Writers in English Literature, 1798-1900: (Subtitled). 3 cr. U/G.
A significant literary figure or figures in the context of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

459 Writers in English Literature, 1900 to the Present: (Subtitled). 3 cr. U/G.
A significant literary figure or figures in the context of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

460 Writers in American Literature, 1500-1900: (Subtitled). 3 cr. U/G.
A significant literary figure or figures in the context of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

461 Writers in American Literature, 1900 to the Present: (Subtitled). 3 cr. U/G.
A significant literary figure or figures in the context of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

463 Writers in African-American Literature: (Subtitled). 3 cr. U/G.
A significant figure or figures in African-American literature. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

464 Writers in Irish Literature: (Subtitled). 3 cr. U/G.
A significant figure or figures in Irish literature. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

465 Women Writers: (Subtitled). 3 cr. U/G.
One or more significant women writers. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

500 Studies in Medieval and Early Modern Literature: (Subtitled). 3 cr. U/G.
Major genres, themes, and figures of the Middle Ages through a reading of representative works. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

501 Studies in Literature, 1500-1660: (Subtitled). 3 cr. U/G.
Critical study of major genres, themes, figures, tenets, aspects, influences and trends in the literature of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

504 Studies in Literature, 1660-1800: (Subtitled). 3 cr. U/G.
Major genres, themes, figures and trends in the literature of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

505 Studies in Literature, 1800-1900: (Subtitled). 3 cr. U/G.
Major genres, themes, figures and trends in the literature of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

507 Studies in Literature, 1900 to the Present: (Subtitled). 3 cr. U/G.
Major genres, themes, figures and trends in the literature of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

517 Studies in African-American Literature: (Subtitled). 3 cr. U/G.
Major genres, themes, figures and trends in African-American literature. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

518 Studies in Irish Literature: (Subtitled). 3 cr. U/G.
Major genres, themes, figures and trends in Irish literature. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

519 Studies in Irish-American Literature: (Subtitled). 3 cr. U/G.
Poetry, novels, short stories, plays or a combination of genre by Irish-American writers studied against dual background of Irish and American culture. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

547 Studies in Theory and Criticism: (Subtitled). 3 cr. U/G.
Topics, trends, or approaches in theory and criticism. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

565 Introduction to Adult/University Level TESOL. 3 cr. U/G.
Overview of the various approaches to teaching English as a second language (ESL) to adult/university-level learners. Jointly-offered w/& counts as repeat of Linguis 565(426). Does not satisfy requirements in School of Educ. Prereq: jr st; satisfaction of GER English Composition competency req; cons instr.

567 Materials for ESL Instruction. 3 cr. U/G.
Designed for prospective ESL/EFL teachers. Focus on planning and designing courses to meet the needs of specific populations of language learners. Prereq: jr st; satisfaction of GER English Composition competency req; cons instr.

569 Internship in Teaching ESL to Adult Learners. 3 cr. U/G.
Designed to provide practical field experience in language teaching to adult/university-level ESL learners. Prereq: jr st; satisfaction of GER English Composition competency req; cons instr.

611 (411) The Writer and the Current Literary Scene. 3 cr. U/G.
Recent developments in the theory and techniques of contemporary fiction or nonfiction. Especially designed for creative writing students. Prereq: sr st, satisfaction of GER English Composition competency req, & 3 cr in English 415(P), 416(P), 615(P), or 616(P); or grad st.

612 (412) Poetry and the Creative Process. 3 cr. U/G.
The origin and development of poetic ideas and techniques. Designed especially for creative writing students. Prereq: sr st, satisfaction of GER English Composition competency req, & 3 cr in English 415(P), 416(P), 615(P), or 616(P); or grad st.

615 (421) Advanced Workshop in Fiction. 3 cr. U/G.
Intensive workshop critiques of student writing. Content varies. Retakable to 6 cr max. Prereq: sr st; 6 cr English 415(420)(P); or grad st.

616 (423) Advanced Workshop in Poetry: (Subtitled). 3 cr. U/G.
Intensive workshop critiques of student writing. Content varies. Retakable to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 6 cr in English 416(P), & cons instr based on writing sample; or grad st.

620 Seminar in the Art of Literature: (Subtitled). 3 cr. U/G.
Intensive study of a literary form or genre, or selected works from varying genres, with emphasis on elements of invention, innovation and craft. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

621 Seminar in the Literature of England: (Subtitled). 3 cr. U/G.
Focus upon specific themes, critical or aesthetic issues, or generic development, in one or more periods of English literature. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

622 Seminar in Irish Literature: (Subtitled). 3 cr. U/G.
Specific themes, critical or aesthetic issues, or generic development, in one or more periods of Irish literature. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

623 Seminar in American Literature: (Subtitled). 3 cr. U/G.
Focus upon specific themes, critical or aesthetic issues, or generic development, in one or more periods of American literature. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req; 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

624 Seminar in Modern Literature: (Subtitled). 3 cr. U/G.
Focus upon specific themes, critical or aesthetic issues, or significant innovations in modern literature, viewed in a cross-cultural or contemporary context. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

625 Seminar in Literary History: (Subtitled). 3 cr. U/G.
An intensive study of literature within its historical dimension, stressing the goals and methods of historical criticism and research in connection with specific periods, topics or traditions. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

626 Seminar in Critical Theory: (Subtitled). 3 cr. U/G.
An investigation into one or more critical theories and their contribution to the study of literature. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

627 Seminar in Literature and Culture: (Subtitled). 3 cr. U/G.
Intensive study of literature within its cultural context, stressing goals and methods of cultural criticism and research in connection with specific issues or topics. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

628 Seminar in Literature by Women: (Subtitled). 3 cr. U/G.
Focus on major writers or themes, or on a body of work that represents a variety of perspectives on gender issues. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

629 Seminar in Literature and Sexuality: (Subtitled). 3 cr. U/G.
Intensive study of the relationship between literature and human sexuality, focusing on particular periods, topics, or critical and aesthetic issues. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

630 Seminar in Literature and the Other Arts: (Subtitled). 3 cr. U/G.
Selections from literature in connection with works from the other arts ranging from the Middle Ages to the present, stressing the importance of an inter-arts perspective. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

631 Seminar in African-American Literature: (Subtitled). 3 cr. U/G.
Focus upon major writers or themes, or on a body of work that represents a variety of perspectives on African-American experience. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English &/or CompLit at the 300-level or above; or grad st.

632 Seminar in American Indian Literature: (Subtitled). 3 cr. U/G.
Focus on major forms, prominent themes, or tribal traditions in the literature of the American Indian. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit at the 300-level or above; or grad st.

633 Seminar in Rhetoric and Writing: (Subtitled). 3 cr. U/G.
Examination of a topic in rhetorical theory and its intersections with related fields such as cultural studies, literary criticism, literacy theory, or composition studies. Retakable w/chg in topic to 6 cr max. Satisfies L&S Seminar req. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

634 Seminar in English Language Studies: (Subtitled). 3 cr. U/G.
Examination of a topic in the study of the English language, providing an opportunity to investigate an issue in language studies in depth. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

701 The Teaching of College Composition. 4 cr. G.
Theories and practices of college composition pedagogy. Prereq: grad st; cons instr.

702 English Graduate Institute: 3 cr. G.
A multisection modular summer course in three tracks: literature, english language, and composition. Six three-week sections are offered. Students may enrol for a max of 2 sections each summer. Retakable w/chg in topic to 12 cr max. Prereq: grad st.

704 Teaching Creative Writing. 3 cr. G.
Approaches to the teaching of creative writing at elementary, high school or college levels. Consult instr to determine emphasis & range. Prereq: grad st.

705 Professional Writing Research. 3 cr. G.
Seminar on theories, methods, and practice in professional writing practitioner research. Observations, interviews, surveys, storyboarding, focus groups, usability testing; research design, IRB proposals; data analysis and reporting. Prereq: grad st or cons instr.

706 Seminar in Professional Writing Theory and Pedagogy. 3 cr. G.
Theory and application of various approaches to teaching technical and business writing on the college and university level. Prereq: grad st.

707 Writing for Business Management. 2-3 cr. G.
Theory and practice of business writing: advanced techniques of audience analysis, organization, persuasion, and revision for clarity, in writing reports, memos, letters, and journal articles. Prereq: grad st in school of business administration or cons instr.

708 Advanced Professional Writing. 3 cr. G.
Seminar on the theory and development of students' professional approaches to writing, research on professional writing genres, and intensive analysis and editorial revisions of documents. Not open to students with grad cr in English 435(ER). Prereq: grad st.

709 Rhetoric, Writing, and Information Technology. 3 cr. G.
Seminar on theory and research concerning audiences and information architecture for on-line discourse, instructional design, e-learning, documentation systems, hypertext, mark-up languages, cultural factors, and Web site development. Not open to students with grad cr in English 436(ER). Prereq: grad st.

710 Advanced Project Management for Professional Writers. 3 cr. G.
Seminar on the theoretical issues, empirical findings, and advanced strategies for

project management; research, task analysis, planning, collaboration, problem solving, document design, usability testing and quality evaluation. Not open to students w/ grad cr in English 437(ER). Prereq: grad st.

711 Topics in Professional Writing: (Subtitled). 3 cr. G.
Special topics seminar in the history, theory, pedagogy, or practice of professional writing. Special focus on public and workplace literacy. Retakable w/ chg in topic to 9 cr max. Prereq: grad st.

712 Professional Writing Theory. 3 cr. G.
Seminar on the major theoretical perspectives influencing the field of professional writing. Prereq: grad st.

713 Qualitative Research in Writing and Literacy. 3 cr. G.
Seminar on the issues and practice of qualitative research as it applies to areas of inquiry related to writing and literacy. Prereq: grad st.

714 Usability Studies. 3 cr. G.
Seminar on history and theory of usability studies and advanced practice in usability assessment and testing. Prereq: grad st.

715 Narrative Craft and Theory: (Subtitled). 3 cr. G.
Analysis of selected prose narratives with emphasis on technical, generic, and aesthetic features. Retakable w/chg in topic to 9 cr max. Prereq: grad st or cons coord of Creative Writing.

716 Poetic Craft and Theory: (Subtitled). 3 cr. G.
Analysis of selected poems with emphasis on technical, generic, and aesthetic features. Retakable w/chg in topic to 9 cr max. Prereq: grad st or cons coord of creative writing.

717 Directed Writing in Fiction. 3 cr. G.
Advanced tutorials with seminar component. Content varies. Retakable up to 6 cr max. Register with listed instructor(s) only. Prereq: grad st & cons instr.

718 Directed Writing in Poetry. 3 cr. G.
Advanced tutorials with seminar component. Content varies. Register with listed instructor(s) only. May be retaken up to 6 cr. Prereq: grad st & cons instr.

720 Modern Literary Theory. 3 cr. G.
A graduate-level introduction to the major critical and theoretical perspectives of the 20th century. Prereq: grad st.

731 History of the English Language. 3 cr. G.
A graduate-level survey of the history of the English language and related scholarship. Prereq: grad st.

732 Modern English Grammar. 3 cr. G.
A graduate-level introduction to modern English grammar and the study of English linguistics. Prereq: grad st.

734 The Rhetoric of Written Discourse. 3 cr. G.
A graduate-level survey of the relationship of rhetoric through western history to the development of written discourse and the analysis of british and american literature. Prereq; grad st.

735 Stylistics. 3 cr. G.
A graduate-level introduction to stylistics and the stylistic analysis of literature. Prereq: grad st & cons instr.

736 Bibliography and Research. 3 cr. G.
A graduate-level introduction to the use of reference works, bibliographical tools, and scholarly periodicals and to the writing of scholarly articles for publication. Prereq: grad st.

737 Literature and Aesthetics. 3 cr. G.
A graduate-level introduction to the major aesthetic philosophies and theories of the western tradition, with emphasis on their relevance to modern criticism and theory. Prereq: grad st.

738 Theories of Language, Literature, or Composition: (Subtitled). 3 cr. G.
Introduction to scholarship in theoretical or methodological approaches to language, literature, or composition. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

740 Approaches to the Modern I. 3 cr. G.
Seminar on major figures and intellectual forces that have shaped multiple approaches to the modern across the academy. English 740, Hist 740, & MAFLL 740 are jointly offered; they count as repeats of one another. Prereq: grad st.

741 Approaches to the Modern II. 3 cr. G.
Seminar on major figures and intellectual forces that have shaped approaches to the modern across periods. English 741, Hist 741 & MAFLL 741 are jointly offered; they count as repeats of one another. Prereq: grad st.

742 Mass Culture. 3 cr. G.
A graduate level introduction to mass culture, with an emphasis on forms and theories of mass culture from the mid-19th century to the present. Prereq: grad st.

743 Film Studies. 3 cr. G.
A graduate-level introduction to film studies, including methods of film analysis and approaches to the history of film. Prereq: grad st.

744 Feminist Critical Theory. 3 cr. G.
A graduate-level introduction to feminist theory and its application to literary & cultural studies. Prereq: grad st.

745 Postmodernism. 3 cr. G.
A graduate-level introduction to postmodernism in literature and other cultural forms. Prereq: grad st.

750 History of Rhetoric I: Classical Rhetoric. 3 cr. G.
Background in Greco-Roman rhetorical traditions and critical commentary on those traditions. Prereq: grad st.

751 History of Rhetoric II: 3 cr. G.
Study of central themes, concepts, and issues after the classical period. Retakable w/chg in topic to 6 cr max. Prereq: grad st; English 750(P).

752 Essay as Genre. 3 cr. G.
A study of the tradition of the essay in England and America and its relation to rhetoric and composition. Prereq: grad st.

753 Contemporary Rhetorical Theory. 3 cr. G.
Survey of rhetorical theory in contemporary scholarship, criticism, and research, with special emphasis on the development of rhetorical concepts and composition studies. Prereq: grad st; English 750(P) or cons instr.

754 Post-Secondary Composition-Topics in Pedagogical Theory: (Subtitled). 3 cr. G.
Topics in pedagogical theory applicable to teaching post-secondary composition, such as the composing process, discourse, analysis, literacy, or writing assessment. Retakable w/chg in topic to 6 cr max. Prereq: grad st & English 701(P), or equiv post-secondary teaching experience, or cons instr.

755 Issues in Composition Studies. 3 cr. G.
Analysis of major issues in rhetoric and composition within historical and theoretical contexts. Prereq: grad st.

756 Research and Methodology in Rhetoric and Composition. 3 cr. G.
Research methods, theoretical issues, and scholarly resources for rhetoric and composition. Extensive reading and research assignments geared to students' professional needs and goals as scholars. Prereq: grad st; English 753(P), 755(P) or cons instr.

758 Writing Workshop in Rhetoric and Composition. 3 cr. G.
Graduate-level course on writing and the critique of writing practice. Prereq: grad st.

760 Research Methods in Linguistics and ESL. 3 cr. G.
Introduction to basic research methodology in linguistics and ESL. Prereq: grad st; cons instr.

761 Discourse Analysis. 3 cr. G.
A graduate-level introduction to the formal analysis of discourse. Prereq: grad st; English 403(P) or Linguis 464(P) or equiv.

763 Morphology. 3 cr. G.
A graduate-level introduction morphological theory. Prereq: grad st; Linguis 460(P) & 464(P) or equiv.

764 Sociolinguistics. 3 cr. G.
A graduate-level investigation of selected topics in sociolinguistic theory and method. Prereq: grad st.

765 Semantics and Pragmatics. 3 cr. G.
A graduate-level investigation of selected topics in the study of meaning. Prereq: grad st; Linguis 466(P) or cons instr.

766 Theory of Second Language Acquisition. 3 cr. G.
A graduate-level introduction to theories of second language acquisition. Prereq: grad st.

767 Linguistic Perspectives on Composition. 3 cr. G.
A survey of linguistic theory and technique relevant to the teaching of composition and an examination of theories of composition from a linguistic perspective. Prereq: grad st.

768 Linguistic Perspectives on Literature. 3 cr. G.

A survey of linguistic theory and technique relevant to the study of literature. The relation between linguistic theory, semiotics, and literary theory. Prereq: grad st.

769 Topics in Linguistics: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

770 Early and Medieval English Literature: (Subtitled). 3 cr. G.
Introduction to early and medieval english literature and approaches to medieval study, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

771 Literature of the English Renaissance: (Subtitled). 3 cr. G.
Introduction to the literature of the english renaissance, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

772 Restoration and Eighteenth-Century Literature: (Subtitled). 3 cr. G.
Introduction to English literature, 1660-1800, and related scholarship, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

773 English Literature of the Romantic Age: (Subtitled). 3 cr. G.
Introduction to the literature of the english romantic period, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

774 Literature in Victorian England: (Subtitled). 3 cr. G.
Introduction to English literature, 1837-1901, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

775 Modern English Literature: (Subtitled). 3 cr. G.
Introduction to English literature of the 20th century, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

776 Women Writers: (Subtitled). 3 cr. G.
A course focusing on the major women writers of a period or genre, or in relation to specified themes. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

777 American Literature to 1830: (Subtitled). 3 cr. G.
Introduction to American literature to 1830, with related scholarship, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

778 Native American Literature: (Subtitled). 3 cr. G.
Introduction to the literature of the american indian, emphasizing critical approaches and relevant scholarship. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

779 American Literature, 1830-1900: (Subtitled). 3 cr. G.
Introduction to American literature from 1830-1900, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

780 African American Literature: (Subtitled). 3 cr. G.
Introduction to the major writers and themes in African American literature, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

781 Modern American Literature: (Subtitled). 3 cr. G.
Introduction to American literature of the 20th century, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

782 Contemporary Literature: (Subtitled). 3 cr. G.
Introduction to recent developments in English and American literature, emphasizing new writers and significant literary innovations. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

783 World Literature in English: (Subtitled). 3 cr. G.
A course focusing on the major writers, themes and traditions of national/ethnic groups outside england and the united states. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

784 Theories of Comparative Literature. 3 cr. G.
A course focusing on the comparativist approach to the literatures of two or more languages and/or national traditions with emphasis on current critical issues and research methods. Prereq: grad st.

789 Internship in Teaching ESL to Adult Learners. 1-6 cr. G.
Field experience in teaching English as a second language to adult learners. Open only to grad students in English Plan D specializing in ESL. Retakable to max of 6 cr. Prereq: 'pass' on Plan D written English MA exam.

798 Graduate-Level Service Learning. 1 cr. G.
Faculty-supervised placement of students as community service volunteers. Retakable to 3 cr max. Prereq: grad st or cons instr; conc reg in English 700-level or above service learning course.

799 Independent Reading for Master's Candidates. 1-4 cr. G.
- Prereq: grad st; cons instr.

805 Seminar in English Language: (Subtitled). 3 cr. G.
The seminar deals at an advanced level with specific topics in English language, both contemporary and historical. Retakable w/chg in topic to 9 cr max. Prereq: grad st & English 400(P).

806 Seminar in Linguistics: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

807 Seminar in Stylistics: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st & English 402(P) or 732(P).

810 Seminar in Bibliography and Textual Criticism. 3 cr. G.
Training in the process of research and analytical bibliography and textual criticism. Prereq: grad st.

812 Seminar in Theories of Composition and Rhetoric: (Subtitled). 3 cr. G.
A graduate-level introduction to the history and current development of rhetoric and composition theory, and to their applications in research in written composition. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

813 Special Topics in Creative Writing: (Subtitled). 3 cr. G.
Readings, writing, and discussion in a designated genre, form, or literary tradition. Retakable w/chg in topic to 6 cr max. Prereq: grad st; cons instr.

814 Seminar in Irish Literature: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

815 Seminar in Fiction Writing: (Subtitled). 3 cr. G.
Content varies. A workshop for graduate students. Retakable to 6 cr max. Prereq: grad st & English 715(P).

816 Seminar in Poetry Writing: (Subtitled). 3 cr. G.
Content varies. A workshop for advanced graduate students. Retakable to 6 cr max. Prereq: grad st; English 716(P).

817 Seminar in Critical Writing. 3 cr. G.
An advanced workshop in the writing and revising of critical essays. Prereq: grad st.

818 Project in Editing a Literary Magazine: (Subtitled). 3 cr. G.
History and theory of editing, producing and distributing of literary magazines in america within the context of practice--editing an issue of cream city review. Content varies. Retakable to a 6 cr max. Prereq: grad st; cons instr.

819 Project in Creative Writing. 1-6 cr. G.
Content varies. Retakable w/chg in topic to 6 cr max. Open only to MA candidates in Plan C, creative writing. Prereq: grad st.

820 Seminar in Advanced Topics in Literary Criticism and Research: (Subtitled). 1-3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

821 Seminar in the Novel: (Subtitled). 3 cr. G.
An intensive examination of some aspect of the genre (history, theory, thematic or technical problems, major figures). Retakable w/chg in topic to 9 cr max. Prereq: grad st.

822 Seminar in Poetry: (Subtitled). 3 cr. G.
An intensive examination of some aspect of the genre, including questions of history, theory, theme, or technique, or the study of major figures. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

823 Seminar in the Drama: (Subtitled). 3 cr. G.
Advanced study in dramatic form, with variable content, thematic and/or historical, or with focus on particular writers. Reading will include plays and critical works. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

824 Seminar in Special Topics in Literature: (Subtitled). 3 cr. G.

Advanced study of a topic in literary history, criticism or theory. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

825 Seminar in Major Figures: (Subtitled). 3 cr. G.

Topics vary. Poetry, fiction, drama, and non-fiction prose writers, with attention to biography, culture and literary background. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

826 Seminar in Literary Forms: (Subtitled). 3 cr. G.

An intensive examination of the formal properties of literature, with emphasis on forms which elude generic classification. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

827 Seminar in Contemporary Literature: 3 cr. G.

Advanced study of a specialized topic or critical issue in the recent work of contemporary writers in english. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

828 Seminar in Comparative Literature: 3 cr. G.

Advanced study of a specialized topic or critical issue in the literatures of two or more languages and/or national traditions. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

831 Seminar in Medieval Literature: (Subtitled). 3 cr. G.

- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

833 Seminar in Chaucer. 3 cr. G.

- Prereq: grad st; English 451(P).

841 Seminar in Renaissance Drama: (Subtitled). 3 cr. G.

- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

843 Seminar in Renaissance Prose and Poetry: (Subtitled). 3 cr. G.

- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

845 Seminar in Shakespeare: (Subtitled). 3 cr. G.

- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

846 Seminar in Milton. 3 cr. G.

- Prereq: grad st.

850 Seminar in the History of Rhetoric: (Subtitled). 3 cr. G.

Issues in the history and historiography of rhetoric. Retakable w/chg in topic to 6 cr max. Prereq: grad st; English 750(P).

851 Seminar in Restoration and Eighteenth Century Literature: (Subtitled). 3 cr. G.

- Retakable w/chg in topic to 6 cr max. Prereq: grad st & English 725(P) or 303(P).

853 Seminar in Contemporary Rhetorical Theory: (Subtitled). 1-3 cr. G.

Issues, topics, and major figures in contemporary rhetoric, philosophies of composition, critical discourse, and theories of writing. Retakable w/chg in topic to 6 cr max. Prereq: grad st; English 750(P); English 753(P) or 755(P).

854 Seminar in College Composition, Theory and Pedagogy: (Subtitled). 3 cr. G.

Professional concerns in teaching college composition; develops various topics in-depth, such as cultural literacy or large-scale assessment. Retakable w/chg in topic to 6 cr max. Prereq: grad st; 6 cr at 700-level, including English 706(P), 754(P), or 755(P).

855 Seminar in Theories of Business and Technical Writing: (Subtitled). 3 cr. G.

Theories of writing processes and products in the workplace. The effects of institutional structures and corporate cultures on writers and writing. Retakable w/chg in topic to 6 cr max. Prereq: grad st; English 706(P);English 753(P) or 756(P).

856 Seminar in Research and Scholarship: (Subtitled). 3 cr. G.

Advanced study of particular methods or topics of research and scholarship in rhetoric and composition. Retakable w/chg in topic to 6 cr max. Prereq: grad st; English 755(p) or 756(p).

858 Seminar in Professional and Literary Nonfiction: (Subtitled). 3 cr. G.

Advanced study of publications and audiences in nonfiction; intensive writing and research in scholarship, education, the arts, human services, business, and government. Retakable w/chg in topic to 6 cr max. Prereq: grad st; English 758(p).

861 Seminar in Romantic Literature: (Subtitled). 3 cr. G.

This seminar will examine one or more aspects of english romanticism as expressed in the poetry and essays of the age. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

862 Seminar in Victorian Literature: (Subtitled). 3 cr. G.

Advanced studies in victorian poetry, fiction, drama, and non-fiction prose, with attention to culture and critical theory. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

871 Seminar in African American Literature: (Subtitled). 3 cr. G.

Intensive examination of one or more major writers, themes, or critical topics in the literature of African Americans. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

872 Seminar in Women Writers: (Subtitled). 3 cr. G.

Intensive examination of one or more major writers, themes, or critical topics. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

874 Seminar in World Literature in English: 3 cr. G.

Advanced study of one or more major writers or special topics in the literature outside england and the united states. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

875 Seminar in Modern Literature: (Subtitled). 3 cr. G.

- Retakable w/chg in topic to 6 cr max. Prereq: grad st.

876 Seminar in Mass Culture: (Subtitled). 3 cr. G.

- Retakable w/chg in topic to 6 cr max. Prereq: grad st.

877 Seminar in Film Theory: (Subtitled). 3 cr. G.

A graduate-level seminar in film theory. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

878 Seminar in Feminist Critical Theory: (Subtitled). 3 cr. G.

- Retakable w/chg in topic to 6 cr max. Prereq: grad st.

879 Seminar in Native American Literature: (Subtitled). 3 cr. G.

Intensive examination of one or more major writers, themes, or critical topics in the literature of native americans. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

881 Seminar in Colonial American Literature: 3 cr. G.

Advanced studies in the literature of colonial america with special attention to cultural and literary backgrounds and critical theory. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

882 Seminar in Nineteenth-Century American Literature: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 6 cr max. Prereq: grad st Retakable w/chg in topic to 6 cr max. Prereq: grad st.

883 Seminar in Twentieth-Century American Literature: (Subtitled). 3 cr. G.

- Retakable w/chg in topic to 6 cr max. Prereq: grad st.

885 Seminar in Critical Theory: (Subtitled). 3 cr. G.

- Retakable w/chg in topic to 6 cr max. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.

Available for students who must meet minimum credit requirement. Fee for 1 cr assessed. Prereq: grad st.

990 Research in English. 1-3 cr. G.

Reserved for research in connection with doctoral thesis. Retakable as necessary to fulfill thesis requirements. Consult coord grad studies. Prereq: admis to Ph.D. prog & completion of 45 grad cr.

999 Independent Reading for Ph.D. Candidates. 1-3 cr. G.

Consult graduate advisor. Prereq: admis to Ph.D. candidacy.

EXCEPTIONAL EDUCATION

- Phone: (414) 229-5251
- Fax: (414) 229-5500
- E-mail: currentt@uwm.edu

School/College: School of Education

Degrees Conferred:

- MS in Exceptional Education

Overview

The Department of Exceptional Education offers two options for a program of study at the master's level: a general option or a certification option. Students choosing the General Option enroll in 15 credits of core requirements and 15 credits that reflect a focus area of study. This program is created in consultation with a faculty advisor. Students choosing the Certification Option must be accepted into one of the Department of Exceptional Education's Post-Baccalaureate Teacher Certification Programs as well as the Graduate Program. Certification programs include Early Childhood Education (0-8 yrs), Primary/Middle and Middle/Secondary Education (grades K-9 or 6-12 in the areas of learning disabilities, cognitive disabilities, and emotional disturbance), Deaf and Hard of Hearing (grades K-12). Up to 15 credits of coursework in the certification program may be applied to the Master's degree in addition to 15 credits of core requirements.

Under the auspices of the PhD program in Urban Education, the Department offers doctoral level training with a designated specialization in Exceptional Education.

Graduate Faculty

Professors

Edyburn, Dave, Ph.D., University of Illinois-Urbana-Champaign
Hains, Ann Higgins, PhD., University of Kansas
McLean, Mary, Ph.D., University of Wisconsin-Madison
Obiakor, Festus, Ph.D., New Mexico State University
Otis-Wilborn, Amy, Ph.D., University of Kansas, Chair

Associate Professors

Ford, Alison, Ph.D., University of Wisconsin-Madison
Keyes, Maureen, Ph.D., University of Wisconsin-Madison
Owens, Laura, Ph.D., University of Wisconsin-Madison
Winn, Judith, Ph.D., Michigan State University

Assistant Professors

Drame, Elizabeth, Ph.D., Northwestern University
Frattura, Elise, Ph.D., University of Wisconsin-Madison
Rice, Nancy, Ph.D., Syracuse University

Master of Science in Exceptional Education

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

- Two letters of recommendation relating to the student's ability to successfully compete in a graduate program.
- Personal interview to determine an applicant's basis for seeking admission, potential for completion of the program, and relevant background and experience in exceptional education.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations.

Credits and Courses

The minimum degree requirement is 30 graduate credits, of which 18 credits must be in the Department of Exceptional Education. The remaining credits may be taken either in or outside of the School of Education. A maximum of 15 credits of U/G (undergraduate/graduate) courses may be counted toward the master's degree. Of the 30 credits, 15 are Program Core Requirements and the remaining 15 credits are either a) certification courses (Certification Option) or b) courses that reflect a focus area of study. Courses in either the Certification Option or General Option are determined in consultation with an advisor from suggested course options identified by the Department.

Program Core Requirements (15 credits)

- Issues and Trends (3 cr.)
- Research course (3 cr.)
- Capstone Seminar in Special Education (3 cr.)
- Advanced issues or methods course in Special Education (3 cr.)
- Thesis/Research course (3 cr.)

Certification Option (Up to 15 credits)

A student pursuing the Certification Option must be admitted to the Department of Exceptional Education's Post-Baccalaureate Teacher Certification Program (consult Undergraduate Bulletin for more information on admission dates and requirements). In consultation with an advisor, a student selects up to 15 credits of coursework required in the certification program for graduate credit. Additionally, the student enrolls in 15 credits of program core requirements. Listed below are the courses in each of the certification programs that can be taken for graduate credit.

Instruction

Primary/Middle

- ExcEduc 681 Literacy II (3 cr.)
- ExcEduc 605 Child, Learner, Disabilities (3 cr.)
- ExcEduc 662 Collaborative Strategies (3 cr.)

Deaf/Hard of Hearing

- ExcEduc 562 Hearing Science (3 cr.)
- ExcEduc 563 Speechreading/Auditory Rehabilitation (3 cr.)
- ExcEduc 605 Child, Learner, Disabilities (3 cr.)
- ExcEduc 681 Literacy II (3 cr.)

Middle/High

- ExcEduc 605 Child, Learner, Disabilities (3 cr.)
- ExcEduc 635 Curriculum Accommodations I: Middle/High (2 cr.)
- CurrIns 545 Reading in the Content Areas (3 cr.)
- ExcEduc 636 Curriculum Accommodations II (2 cr.)
- ExcEduc 662 Collaborative Strategies (3 cr.)
- ExcEduc 576 Curriculum Accommodations III (2 cr.)

Early Childhood

- ExcEduc 568 Assessment and Curriculum in Early Intervention: Birth to Three (3 cr.)
- ExcEduc 569 Assessment and Curriculum in Special Education: Preschool (3 cr.)
- ExcEduc 570 Assessment and Curriculum in Special Education: Primary (3 cr.)
- ExcEduc 634 Collaborative Consultation and Teaming in Early Childhood Special Education (1 cr.)
- ExcEduc 681 Literacy II (3 cr.)
- ExcEduc 651 Working with Families in Urban Communities I (1 cr.)
- ExcEduc 652 Working with Families in Urban Communities II (1 cr.)

Administration and Supervision

In cooperation with Administrative Leadership

- ExcEduc 579 Current Topics: Pupil Services
- ExcEduc 780 Internship in Special Education Administration
- ExcEduc 805 Legislative and Legal Aspects of Exceptional Education
- ExcEduc 960 Seminar: Administration and Supervision of Programs for Exceptional Individuals

General Option (15 credits)

The general option for a Master's program in the Department of Exceptional Education is developed by identifying a theme of study that is based upon the student's educational background, areas of professional interest, and

professional development goals. A theme, for example, may focus on assessment, instruction, policy, or other relevant issues in the area of special education. Courses are selected in consultation with a faculty advisor.

Thesis

A thesis or master's project is required for all students in the certification and general options. All students are required to present the results of their thesis or project at a seminar session in the semester in which they complete their degree.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Urban Education

Specialization in Exceptional Education. Under the auspices of the doctoral program in Urban Education, the Department of Exceptional Education provides doctoral training with a specialization in Exceptional Education. The program emphasis is on policy studies, curriculum development, administration, and learning and development of individuals with handicaps. Prospective doctoral students wishing to specialize in Exceptional Education must first be admitted to the Urban Education Doctoral Program. Admission and general program requirements can be obtained from the Director of Doctoral Studies in Urban Education. This program is described in detail on the Urban Education program page.

Certificate in Assistive Technology and Accessible Design

The Certificate in Assistive Technology and Accessible Design is an interdisciplinary program designed to meet the demand for assistive technology and accessible design specialists. The College of Health Science's Departments of Occupational Therapy and Communication Sciences Disorders along with the School of Education's Department of Exceptional Education collaborate on the course offerings and management. The certificate follows a model of prerequisite disability and technology basic knowledge, survey of the fields, assessment, intervention and leadership. Completion of the certificate will help prepare the students to sit for State and National certification examinations as Assistive Technology Specialists, Rehabilitation Engineering Technologist and Low Vision Specialist.

Application and Admission

Students interested in this certificate should contact one of the three sponsoring programs before enrolling in any certificate courses. Admission to the certificate requires evidence of a basic knowledge of disability and computer applications, and an undergraduate GPA of at least 2.75 or a graduate GPA of at least 3.0. Generally, students in the health sciences and exceptional education will have sufficient coursework in disability related studies. Prerequisite evidence in disability related studies may be obtained at the undergraduate level. One of the following is recommended to meet the computer applications requirement.

ExEd 730 Assistive and Instructional Technology for Students with Disabilities, 3 cr
OccThpy 750 Computer applications in Occupational Therapy practice, 3 cr

Those not already admitted to a UWM graduate degree program must complete a UW System online admission application and have an official undergraduate transcript sent to the Graduate School.

Credits and Courses

The certificate in Assistive Technology and Accessible Design requires completion of a minimum 15 credits as listed below.

Introduction (3 cr, must be taken at Graduate level)

- OccThpy 620 Introduction to Assistive and Rehabilitation Technology, 3 cr (Alternate related graduate level course can substitute if this course has been completed on an undergraduate level.)

Assessment (3 cr)

- ExcEduc 765 Assistive Technology Service Delivery in Schools, 3 cr
- ComSDis 715 Assessment and Intervention in Augmentative and Alternative Communication, 3 cr
- OccThpy 770 Assessment in Assistive Technology and Accessible Design, 3 cr

Intervention (6 cr - any U/G course must be taken at Graduate level)

- OccThpy 625 Design and Disability, 3 cr
- OccThpy 595 Vision I: Introduction to Low Vision and Vision Impairment, 3 cr
- OccThpy 596 Vision II: Practical Aspects of Visual Impairment & Low Vision Intervention, 3 cr
- OccThpy 593 Introduction to Biomedical and Rehabilitation Instrumentation, 3 cr
- OccThpy 999 Advanced Independent Study, 1-3 cr
- ExEd 735 Technology and Instruction for Students with Disabilities, 3 cr
- ExEd/OccThpy 777 Fieldwork in Assistive Technology, 3 cr
- ExEd 799 Independent Reading, 1-3 cr
- ComSDis 717 Special Populations in Communication Disorders, 2 cr
- ComSDis 791 Research Experience, 1 cr
- ComSDis 799 Independent Studies, 1-3 cr

Capstone (3 cr)

- OccThpy 760 Assistive and Rehabilitation Technology ***(online)***, 3 cr

Minimum Grade Requirement

To be awarded the certificate, students must earn a minimum grade of B in the certificate courses (B- not allowed).

Transfer Credit

Up to 3 credits of graduate coursework may be considered for transfer to the certificate program. To be eligible, courses must meet the requirements of the Graduate School, and be approved by the ATAD certificate coordinating committee.

Time Limit

Students must complete all certificate courses within 3 years of initial enrollment in the certificate program.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

301 (539) American Sign Language I. 3 cr. U/G.
This course will introduce basic American Sign Language structure and study of deaf culture. Basic fingerspelling principles are also introduced. Prereq: none.

349 Field work: Interacting in the Deaf Community I. 3 cr. U/G.
Experiences of observation, actual interpreting, sign teaching and interaction with deaf community. Weekly seminar provides forum for feedback and processing experiences. Not open for cr to students with cr in ExcEduc 322(657). Prereq: jr st, admis to ITP, or cons instr.

353 Introduction to Culturally Diverse Community Resources. 3 cr. U/G.
Overview of community resources serving consumers with hearing impairments. Professionals and consumers from agencies and organizations will address needs as they relate to interpreting. Not open for cr to students with cr in ExcEduc 342(421). Prereq: jr st & admis to ITP, or grad st, or cons instr.

354 Field work: Interacting in the Deaf Community II. 3 cr. U/G.
Continuation of ExcEduc 349: requires time observing, interpreting, teaching and community interaction. Weekly seminars continue to provide forum for processing of experiences. Not open for cr to students with cr in ExcEduc 323(658). Prereq: jr st

& admis to ITP, & ExcEduc 349(P); or grad st.

358 (310) ASL/English Linguistics I. 3 cr. U/G.
The linguistics of American Sign Language, exploring its structure and grammar, emphasizing its phonology and its comparison to English. Prereq: jr st; admis to ITP, or ExcEduc 306 (P), or cons instr.

363 (311) ASL/English Linguistics II. 3 cr. U/G.
Focus on the linguistics of American Sign Language, including emphasis on its morphology and syntax and its comparison to English. Prereq: jr st; ExcEduc 358(310)(P)

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared course work. Retakable w/chg in topic. Prereq: jr st, cons instr, acceptance for Study Abroad Prog.

500 Fingerspelling & Numbers. 3 cr. U/G.
Introduction to fingerspelling and numbers in ASL. Prereq: jr st; C- or better in ExcEduc 304(P); or Level 2+ ASLPI score; or cons instr.

510 Classifiers. 3 cr. U/G.
Study of the classifier system of ASL. Prereq: jr st; C- or better in ExcEduc 305(P) or 306(P); or cons instr.

520 ASL Literature. 3 cr. U/G.
Introduction to the analysis of ASL Literature. Prereq: jr st; C- or better in ExcEduc 305(P) or 306(P); or cons instr.

529 Mainstreaming: Integrating the Special Student into the Preschool Classroom. 3 cr. U/G.
Understanding the needs of preschool handicapped children, emphasizing methods of assessment and programming in mainstreamed settings. Prereq: jr st & admis to school of educ; or grad st.

531 Inclusion for Secondary Educators: Humanities, the Arts, Foreign Language. 3 cr. U/G.
Understanding the needs of secondary level students with handicaps, emphasizing methods of assessment and programming in mainstreamed settings. Counts as repeat of ExcEduc 530 and 605. Prereq: jr st & admis to School of Educ; or grad st.

532 Assessment and Monitoring. 3 cr. U/G.
Roles and responsibilities in district-wide and alternative assessment, developing monitoring systems, report writing, equitable and just assessment practices. Prereq: admis to Post-Bac Cert prog or cons instr.

533 Assessment/Monitoring : Deaf & Hard of Hearing. 1 cr. U/G.
Roles and Responsibilities in District-Wide and Alternative Assessment, Developing Monitoring Ssystems, Report Writing Promotive, Equitable and Just Assessment Practices. Prereq: admis to Post-Bac Cert prog or cons instr.

536 Inclusion for Secondary Science and Math Educators I. 2 cr. U/G.
Overview of characteristics of students with disabilities. Methods and strategies for working with students in general settings. Prereq: jr st; admis to Post-Bac Cert prog or cons instr.

537 Inclusion for Secondary Science and Math Educators II. 1 cr. U/G.
Continuation of ExcEduc 536. Practicum to gain experience working with students with disabilities in general education settings. Prereq: jr st; ExcEduc 536(P); admis to Post-Bac Cert prog or cons instr.

541 Manual Communication Skills I. 3 cr. U/G.
Developing preliminary instructional skills in using manual communication for the hearing impaired. Prereq: jr st & admis to school of educ; or grad st. Students must pass competency test in basic aspects of manual communication.

542 Manual Communication Skills II. 3 cr. U/G.
Developing advanced instructional skills in using manual communication for the hearing impaired; a field component is required. Prereq: ExcEduc 541 or cons instr.

553 Curriculum Methods I: Early Childhood Exceptional Education Needs. 3 cr. U/G.
Curricular approaches, informal assessment and intervention strategies; development, use, and evaluation of instructional materials for young children with mild handicaps. Prereq: ExcEduc 630, conc reg in variance student teaching or cons instr.

554 Curriculum Methods II: Early Childhood Exceptional Education Needs. 3 cr. U/G.
Curriculum for children with multiple handicaps: extending upon play, organizing instructional environments, home training, integration of supportive services, inservice programming, mainstreaming in early childhood programs. Prereq: ExcEduc 553, conc reg in variance student teaching or cons instr.

555 Education of the Moderately Mentally Retarded I. 3 cr. U/G.
Methods, materials and curriculum for moderately mentally retarded individuals; one of two methods courses focusing on low-functioning individuals. Prereq: ExcEduc 630, conc reg in variance student teaching or cons instr.

556 Education of the Moderately and Severely Handicapped II. 3 cr. U/G.
Methods, materials and curriculum for moderately and severely handicapped individuals; one of two methods courses focusing on low-functioning individuals. Prereq: ExcEduc 555, conc reg in variance student teaching or cons instr.

558 Communication in the Classroom I: Deaf/Hard of Hearing. 3 cr. U/G.
Developing proficiency and instructional skills in using manual communication for individuals who are deaf or hard of hearing in the educational context. Prereq: must pass competency test in basic aspects of manual communication prior to registration; jr st; admis to Post-Bac Cert prog or cons instr.

559 Communication in the Classroom II: Deaf/Hard of Hearing. 3 cr. U/G.
Linguistic analysis and curriculum planning for facilitating the development of communication in students who are deaf or hard of hearing. Prereq: ExcEduc 680(P) & 681(P). Admis to Post-Bac Cert prog or cons instr.

562 Hearing Science. 3 cr. U/G.
Overview of physical and psycho-physical concepts of hearing science, speech mechanism, audiological evaluation and implications for the educational context. Prereq: admis to Post-Bac Cert prog or cons instr.

563 Speechreading/Auditory Rehabilitation. 3 cr. U/G.
Techniques for teaching speech, speechreading, listening, and auditory training for children who are deaf or hard of hearing. Prereq: admis to Post-Bac Cert prog or cons instr; ExcEduc 562(P); jr st.

564 Communication Methods Practicum. 3 cr. U/G.
Field experience with individuals with hearing impairments in schools. Emphasis on spoken and sign language development. Includes scheduled class and demonstrations. Prereq: jr st; admis to School of Educ or grad st; ExcEduc 541, 562 & 563, or cons instr.

565 Techniques of Teaching School Subjects to Individuals w/Hearing Impairments II. 3 cr. U/G.
Methods of teaching social studies, science, and mathematics as related to the language needs of students with hearing impairments and academic deficiencies. Prereq: jr st & admis to School of Educ, or grad st; ExcEduc 560 & 561 or cons instr.

568 Curriculum and Methods for Special Education: Birth to Three. 3 cr. U/G.
Designed for teachers serving infants and toddlers with disabilities and their families. Prereq: jr st; admis to ExcEduc prog; ExcEduc 647(C).

569 Curriculum and Methods for Special Education: Preschool. 3 cr. U/G.
Designed for teachers serving preschool children with disabilities and their families. Prereq: jr st; admis to ExcEduc prog; ExcEduc 648(C).

570 Curriculum and Methods for Special Education: Primary. 3 cr. U/G.
Designed for teachers serving primary children with disabilities and their families. Prereq: jr st; admis to ExcEduc prog; ExcEduc 649(C).

571 Curriculum Accommodations I: Primary/Middle. 1-3 cr. U/G.
Determine individualized goals within a broad curriculum framework and develop strategies for making accommodations in teaching methods, materials and class set-up. May be retaken to 3 cr max. Prereq: admis to Post-Bac Cert prog or cons instr; jr st; ExcEduc 587(C).

574 Curriculum Accommodations II: Primary/Middle. 3 cr. U/G.
In-depth experience in IEP planning and scheduling to accommodate students with highly individualized needs within the academic curriculum. Prereq: ExcEduc 571(P), 588(C). Admis to post-bac cert prog or cons instr.

576 Curriculum Accommodations III: Functional for Middle to High Students. 3 cr. U/G.
Planning and scheduling for students with highly individualized goals, including school-to-work, while striving to integrate these goals into a well-coordinated program. Prereq: admis to Post-Bac cert prog or cons instr.

579 Current Topics in Exceptional Education: (Subtitled). 1-3 cr. U/G.
Specific topic announced in Schedule of Classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: jr st.

580 An Overview of Child/Youth Care. 3 cr. U/G.
Survey of skills, theories and approaches of the youth work field. Emphasis on interactive, developmental and relationship-building approaches in a variety of settings. Ed Pol/ExcEduc/Soc Wrk 580 are jointly offered & count as repeats of each other. Prereq: jr st or cons instr.

581 Youth Work Practice. 3 cr. U/G.
Applies the skills, theories and approaches of the youth work field to settings such as schools, community centers, and residential programs. Ed Pol/ExcEduc/Soc Wrk 581 are jointly offered & count as repeats of each other. Prereq: jr st; Ed Pol/ExcEduc/Soc Wrk 580(P); or grad st or cons instr.

585 Supervised Practicum in Child and Youth Care. 2-4 cr. U/G.
Supervised practicum in residential agencies and settings which utilize child and youth care workers and serve behaviorally, cognitively and/or physically disabled youth. Ed Pol/ExcEduc 585 are jointly offered & count as repeats of each other. Prereq: jr st; Ed Pol/ExcEduc/Soc Wrk 580(P), or grad st; cons instr.

589 Workshop in Exceptional Education: (Subtitled). 1-6 cr. U/G.
Variable content format examines assessment and/or methodological strategies appropriate for educators working with broad range of handicapped children and adolescents. May be retaken with change of topic to max of 6 cr. Prereq: jr st; cons instr or workshop dir.

590 Microcomputers in Exceptional Education. 1-3 cr. U/G.
Examination, application, and evaluation of software and adaptive equipment for use with children who have mild to severe handicapping conditions. Prereq: jr st; cons instr.

600 Survey of Exceptional Education. 3 cr. U/G.
History, theories, research, and practices related to individuals with learning, sensory, behavioral or physical handicapping conditions. Prereq: sr st & admis to School of Educ; or grad st.

601 Behavioral Supports. 3 cr. U/G.
Addresses needs of students with challenging behaviors. Emphasis on working collaboratively to conduct functional behavioral analysis. Prereq: admis to Post Bac Cert prog or cons instr.

602 Resources and Instruction in American Sign Language. 3 cr. U/G.
Course focuses on assessment and methodology components in teaching ASL as a foreign language. Prereq: jr st.

605 Child, Learner, Disabilities. 3 cr. U/G.
Perspectives on disability; learning characteristics associated with disabilities; historical, legal and philosophical foundations; child mentoring and advocacy linked with a family-based practicum. Counts as repeat of ExcEduc 530 and 531. Prereq: admis to Post-Bac Cert prog or cons instr.

607 Working with Culturally Diverse Deaf Students. 3 cr. U/G.
Discusses the educational and culturally diverse backgrounds of deaf students in the schools. Counts as repeat of ExcEduc 579 with similar topic. Prereq: none.

608 Multicultural Learning and Teaching in Special Education. 3 cr. U/G.
Covers theoretical and practical applications of multicultural issues to learning and teaching in special education. Prereq: jr st.

610 Survey of Learning Disabilities. 1 cr. U/G.
History, theories, research and practices related to individuals with learning disabilities. Prereq: jr st & admis to Post-Bac Cert prog or cons instr; ExcEduc 300(P) or 600(P) or 605(P); or grad st.

615 Cooperative Learning: An Approach to Effective Instruction. 3 cr. U/G.
Techniques to disign and implement cooperative learning strategies for both exceptional and regular education students. Prereq: teaching certification or cons instr.

616 Cooperative Learning: Advanced Skills. 3 cr. U/G.
Review of basic cooperative learning elements. Techniques to integrate cooperative skills of communication, leadership, trust, and conflict resolution into cooperative lessons. Prereq: ExcEduc 615 & teacher certification or cons instr.

617 Cooperative Learning: Creative Conflict. 3 cr. U/G.
Review cooperative learning elements. Techniques to integrate controversy skills of negotiating, mediating and managing conflict and anger into academic lessons within cooperative learning goal structure. Prereq: ExcEduc 615 & teacher certification or cons instr.

620 Survey of Emotional Disturbance. 1 cr. U/G.
History, theories, research and practices related to individuals with emotional disturbance. Prereq: jr st & admis to Post-Bac Cert prog or cons instr; ExcEduc 300(P) or 600(P) or 605(P); or grad st.

621 Education of Children with Emotional Disturbance. 3 cr. U/G.
Role of the teacher in the reeducation of the disturbed child; methods and materials; classroom management; evaluation. Prereq: ExcEduc 620; conc reg in practicum or cons instr.

625 Alcohol and Other Drug Abuse and the Handicapped Student. 1-3 cr. U/G.
Overview of chemical abuse in handicapped students which focuses on understanding the condition, reviewing identification, referral and treatment approaches and describing the responsibilities of educators. Prereq: sr st; ExcEduc 300 or 530 or 531.

630 Survey Early Childhood Intervention: Young Chldren with Special Needs, Families. 3 cr. U/G.
Introduction to etiology, historic background, current service provisions, and issues and trends as related to infants, toddlers, and preschoolers with disabilities and their families. Prereq: ExcEduc 300(P) or 600(P); jr st & admis to School of Educ or grad st.

631 Methods for Teaching Commun Skills to Students with Severe Disabilities. 3 cr. U/G.
Study of assessment, instructional, and augmentative techniques for teaching and providing communication (vocal and non-vocal) to students with severe disabilities. Prereq: sr st; ExcEduc 665(410)(P), ComsDis 240(P), or cons instr.

633 Interdisciplinary Team Field Experience in Urban Settings. 2 cr. U/G.
Field experience is designed to develop student's skills as members of interdisciplinary teams in urban community settings. Prereq: jr st; ExcEduc 634(C).

634 Collaborative Consultation and Teaming-Serving Young Children with Disabilities. 3 cr. U/G.
Focus on development of collaboration and consultation skills for professionals employed in interdisciplinary and interagency settings. ExcEduc 634, Occthpy 634, & ComSDis 634 are jointly

offered; they count as repeats of one another. Prereq: jr st.

635 (735) Individualized Planning & Instructional Methods. 2 or 3 cr. U/G.
Methods and strategies for teaching and evaluating adolescents with disabilities. Special emphasis given to individual educational programs, lesson planning and scheduling. Prereq: jr st; admis to Post-Bac cert prog or cons instr; ExcEduc 487(C) & 587(C) or cons instr.

636 Curriculum Accommodations. 2 or 3 cr. U/G.
Methods and strategies for teaching and evaluating adolescents with learning disabilities, emotional disturbance and cognitive disabilities. Special emphasis given to developing individual adaptations and modifications. Prereq: jr st; admis to Post-Bac Cert prog or cons instr; ExcEduc 635(P); 488(C) & 588(C) or cons instr.

640 Introduction to Individuals with Cognitive Disabilities. 1 cr. U/G.
Introduction to etiology and social, educational, and vocational aspects of cognitive disabilities. Prereq: ExcEduc 300(P) or 600(P) or 605(P); jr st & admis to School of Educ; or grad st.

644 Enhancing Literacy Learning for Diverse Learners: 3 cr. U/G.
Teaching reading and writing to diverse learners. Jointly offered with & subtitles count as repeat of same title of CurrIns 644. CurrIns 644 & ExcEduc 644 may be retaken with change of topic to combined 9 cr max. Prereq: currently teaching with at least 2 yrs experience; cons instr.

647 Early Childhood Special Education Field Experience: 0 to 3 Yrs. 3 cr. U/G.
Provides urban experiences in early intervention programs to develop teaching skills in birth to three programs. Prereq: jr st; admis to ExcEduc prog; ExcEduc 568(C).

648 Early Childhood Special Education Field Experience: Preschool. 3 cr. U/G.
Practicum provides urban teaching experiences in preschool programs to develop skills for working with 3-to-5 year olds with special needs and their families. Prereq: jr st; admis to ExcEduc prog; ExcEduc 569(C).

649 Early Childhood Special Education Field Experience: Primary. 3 cr. U/G.
Practicum provides urban teaching experiences in primary school-age programs to develop skills for working with 1st to 3rd graders with special needs and their families. Prereq: jr st; admis to ExcEduc prog; ExcEduc 570(C).

651 Working With Families in Urban Communities. 3 cr. U/G.
Familial and ecological factors affecting individuals with disabilities and their caregivers including in-depth experiences with a family who has a young child with special needs. Prereq: jr st.

652 Developmental Evaluation of Young Children with Disabilities. 3 cr. U/G.
The major functions of assessment used by Early Childhood Special Educators. Prereq: jr st; ExcEduc 651(P).

655 Introduction to Education of Individuals Who are Deaf and Hard of Hearing. 1 cr. U/G.
Overview of educational programs and policies for pre K-12 students who are deaf and hard of hearing. Prereq: jr st.

661 Exceptional Children and Their Families. 2 cr. U/G.
Attitudes of teachers toward parents of exceptional children, the interviewing process, parent conferences, the effect of exceptional children on the family, and behavioral management in the home. Prereq: ExcEduc 300; cons instr; jr st & admis to School of Educ or grad st.

662 (731) Collaborative Strategies. 3 cr. U/G.
Provides the teacher with techniques that will assist in establishing relationships with other professionals, parents, and community agencies. Prereq: jr st; ExcEduc 300(P), 600(P), or 605(P); admis to Post-Bac Cert prog or cons instr.

665 Language and Literacy for the Exceptional Student. 3 cr. U/G.
An overview of the theoretical underpinnings for language and literacy practices, assessments, and methods of facilitating growth in students with exceptional education needs. Prereq: ExcEduc 300 or equiv; ComsDis 240; jr st & admis to School of Educ or grad st.

670 Classroom Management: Students with Handicapping Conditions. 3 cr. U/G.
A learning theory approach to the management of social and academic behavior of exceptional individuals. Emphasis on research and applied behavioral techniques for exceptional individuals. Requires direct interaction with students. Prereq: jr st & admis to School of Educ or grad st.

671 Behavior Support & Intervention for Mid/High Students with Disabilities. 3 cr. U/G.
Techniques in arranging academic and social environments for adolescents having learning and social problems. Prereq: admis to Middle/High prog; cons instr.

672 Teaching Social Skills to Students with Disabilities. 3 cr. U/G.
Teaching social skills to students with disabilities including direct instruction, cognitive interpersonal problem solving. Reviews related theory, methodology, instructional materials, research. Prereq: jr st; ExcEduc 670(P) or equiv.

675 Learning Strategies I: Cognitv,Metacognitv Intrvntns-Mildly Hndicppd Stdnts. 3 cr. U/G.
Understanding, application and evaluation of learning strategies for use with adolescents with mild handicaps. Prereq: jr st; cons instr or teacher certification.

676 Learning Strategies II: Cognitv/Metacognitv Intervntns-Mild Hndicppd Stdnts. 3 cr. U/G.
Indepth analysis of strategy instruction for use with adolescents with mild handicaps. Prereq: jr st; ExcEduc 675; cons instr; teacher certification.

679 Critical Issues in Transition Planning for Students with Disabilities. 3 cr. U/G.
Understanding transition planning and tools to effectively assist students with disabilities in the transition process. Counts as repeat of ExcEduc 589 with similar topic. Prereq: jr st.

680 Literacy I. 3 cr. U/G.
Observing and assessing reading and writing; implementing basic strategies toward supporting reading and writing development; becoming a motivated reader/writer. Prereq: admis to the Post-Bac Cert prog or cons instr.

681 Literacy II. 3 cr. U/G.
Organizing and implementing literacy instruction. Addressing the individual strengths and needs in communication of students with disabilities. Prereq: ExcEduc 680(P); admis to the Post-Bac Cert prog or cons instr.

682 Language and Literacy in Early Childhood Special Education. 3 cr. U/G.
Methods in language and literacy instruction for children with special needs including study of first and second language development in children birth through age eight. Prereq: jr st; admis to Post-Bac cert prog, or cons instr.

684 Multisensory Structured Language Teaching. 3 cr. U/G.
Advanced study of dyslexia and how to implement remedial approaches to literacy. Includes a required practicum experience. Prereq: Post-bac status or cons instr.

685 Advanced Methods in Learning Disabilities. 3 cr. U/G.
Examination of recommended instructional practices in the areas of literacy, mathematics, organization and study skills, social interactions and self-advocacy. Counts as repeat of ExcEduc 589 with same topic. Prereq: grad st or admis to Post-Bac Cert prog or cons instr.

689 Workshop in Curricula Implementation of Research in Exceptional Education. 1-6 cr. U/G.
Research and methodology for exceptional education classroom application for students enrolled in a workshop course coordinated by the department of exceptional education. May be repeated. Prereq: sr st or cons instr.

699 Independent Reading. 1-3 cr. U/G.
- Prereq: jr st & admis to School of Educ or grad st; cons instr.

703 Vocational Aspects in Rehabilitation and Exceptional Education. 3 cr. G.
Disability and case management practices for severely disabled persons. Emphasis on

return-to-work interventions: vocational evaluation, work adjustment, job placement, accommodation, ergonomics. Jointly offered with & counts as repeat of Couns 703. Prereq: grad st; ExcEduc 679(P) or Couns 601(C).

705 Understanding Culture and Ethnicity in the Transition Process. 3 cr. G.

This course will provide an overview of the importance of culture & ethnicity in the transition process for students with disabilities. Prereq: grad st; ExcEduc 679(P); cons instr.

707 Infusing Socio-Sexual Issues into Transition Planning. 3 cr. G.

This course is designed to discuss socio-sexual issues & facilitate participants' development of skills needed to infuse socio-sexual issues into transition planning. Prereq: grad st; ExcEduc 679(P); cons instr.

708 Student, Family & Community Involvement in the Transition Planning Process. 3 cr. G.

This course is designed to explore trends & strategies relative to the development of self determination skills, person-centered planning & educators as consultants in transition planning. Prereq: grad st; exceduc 679(P); cons instr.

715 Issues and Trends in Exceptional Education. 3 cr. G.

Designed for students with entry level experience in exceptional education, the course reviews the exceptional education populations, methodology and current issues and trends. Prereq: grad st; ExcEduc 300 or equiv or cons dept.

725 Personal-Social Assessment of Individuals with Exceptional Education Needs. 3 cr. G.

Principles and practices of social assessment for individuals with exceptional education needs. Prereq: grad st; ExcEduc 750; or cons instr.

730 Assistive and Instructional Technology for Students with Disabilities. 3 cr. G.

Introduction to special education technology emphasizing applications for students with disabilities and their teachers. Prereq: grad st.

735 Technology & Instruction for Students with Disablities. 3 cr. G.

Curriculum intergration models and technology integration strategies for enhancing educational outcomes of students with disabilties. Prereq: grad st.

750 Diagnostic Procedures for Exceptional Individuals. 3 cr. G.

Theory and procedures of diagnostic evaluation of individuals with exceptional education needs. Interpretation of data related to education and remediation. Prereq: grad st; ExcEduc 610 or 620 or 640 or 650; cons instr.

756 Field Work with the Deaf and Hard of Hearing II. 1-6 cr. G.

- Prereq: grad st & cons instr.

760 Problems in Curriculum Development - Exceptional Children. 3 cr. G.

Emphasis on principles and procedures involved in curriculum development and the improvement of classroom instruction through consideration of multiple approaches to teaching methodology. Prereq: grad st & cons instr.

765 Assistive Technology Service Delivery in Schools. 3 cr. G.

Introduction to legal, legislative, and policy foundations guiding the creation and delivery of assistive technology services in schools, clinics and agencies. Prereq: grad st.

771 Field Work with Students Having Exceptional Education Needs. 3 cr. G.

- Retakable to 9 cr max. Prereq: grad st; cons dept.

772 Field Work with Students Having Hearing Impairments. 3 cr. G.

- Retakable to 9 cr max. Prereq: grad st; cons dept.

773 Field Work with Students Having Cognitive Disabilities. 3 cr. G.

- Retakable to 9 cr max. Prereq: grad st; cons dept.

774 Field Work with Students Having Severe Handicaps. 3 cr. G.

- Retakable to 9 cr max. Prereq: grad st; cons dept

775 Field Work with Students Having Emotional Disturbance. 3 cr. G.

- Retakable to 9 cr max. Prereq: grad st; cons dept.

776 Fieldwork with Students Having Early Childhood-Exceptional Education Needs. 1-3 cr. G.

- Retakable to 9 cr max. Prereq: grad st; cons dept.

777 Fieldwork in Assistive Technology. 1 cr. G.

Provides students with a school- or clinic-based experience in the delivery of assistive technology services. ExcEduc 777 & Occthpy 777 are jointly offered; they count as repeats of one another. May be retaken for 9 cr max. Prereq: grad st & cons instr.

778 Field Work with Students Having Learning Disabilities. 3 cr. G.

- Retakable to 9 cr max. Prereq: grad st; cons dept.

779 Current Topics in Exceptional Education: (Subtitled). 1-3 cr. G.

Specific topic announced in schedule of classes each time course is offered. Prereq: grad st; cons instr.

780 Internship in Special Education Administration. 3 cr. G.

Students will work with selected administrators in the field of special education administration. Prereq: grad st; cons instr.

790 Administration of Pupil Services. 3 cr. G.

Review and analysis of pupil service programs in K-12 education, considers historical, legal and professional proactive standards. Prereq: grad st; Ad Ldsp 710(P), 752(P); cons instr.

799 Independent Reading. 1-3 cr. G.

- Prereq: grad st; cons instr.

801 Urban Education: Doctoral Seminar in Exceptional Education. 3 cr. G.

Examination of research on exceptional education in urban settings including topics related to students in general and special education environments. Prereq: grad st; admis to urban educ doctoral prog; Educ 701.

805 Legislative and Legal Aspects of Exceptional Education. 3 cr. G.

Legislative and legal factors involved in educating individuals with handicapping conditions. Prereq: grad st; ExcEduc 600.

815 Capstone Course In Special Education. 3 cr. G.

Culmination of course work during the graduate program leading to the development of the thesis or graduate project. Prereq: grad st; ExcEduc 715(P).

845 Field Work with Adolescents Having Special Learning Problems. 1-6 cr. G.

- Prereq: grad st; cons dept.

861 Foundations in Student Services and Special Education Administration. 3 cr. G.

Sets the foundation for leadership in special education and student services in the context of integrated comprehensive services and student diversity. Prereq: grad st.

880 Proseminar in Urban Education: Exceptional Education. 2 cr. G.

An examination of selected problems and issues in urban education. Prereq: grad st; admis to urban educ doctoral prog.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr will be assessed. Prereq: grad st.

900 Seminar: Urban Issues in Exceptional Education. 3 cr. G.

Analysis of societal forces affecting special education, teachers, and pupils in an urban environment. Emphasis on social-political-economic and human-relations factors operant in special education programs. Prereq: grad st; cons instr.

915 Seminar: Social Impact of Learning, Behavioral and Cognitive Disorders. 2 cr. G.

The effects of learning disorders on the interactional behavior of individuals in the community environment: the home, the schools, the courts. Prereq: grad st; ExcEduc 300 or 600.

950 Seminar: Research on Mental Retardation. 3 cr. G.

Review of literature in mental retardation. Evaluation of recent research. Prereq: grad st; ExcEduc 640.

953 Semnr-Resrch on Early Intrvntn: Infnts/Young Chldrn w/Spcl Needs & Families. 3 cr. G.

Analysis of research and contemporary issues in early intervention for infants, toddlers, and preschoolers with special needs and their families. Prereq: grad st; ExcEduc 630 or 640 or cons instr.

955 Seminar: Research on Students with Severe Handicaps. 3 cr. G.

Analysis of the contemporary issues and treands in the field of the education of students with severe handicaps. Prereq: grad st; ExcEduc 556 or cons instr.

958 Seminar in Research on Language and Learning Disabilities. 3 cr. G.

Comprehensive review of literature in language and learning disabilities. Intensive evaluation of recent research. Prereq: grad st; ExcEduc 610.

960 Seminar: Administration/Supervision of Programs for Exceptional Individuals. 3 cr. G.

Administration, supervision, philosophy, organization, and federal and state legislation affecting individuals with handicapping conditions. Prereq: grad st; ExcEduc 300 or 600.

961 Advanced Analysis and Design of Student Service and Special Education Administration. 3 cr. G.

Advanced analysis and design of organization and leadership of integrated comprehensive servcies for all learners. Prereq: grad st; ExcEduc 861(P).

965 Seminar: Research on Emotional Disturbance. 3 cr. G.

Review of literature on behavioral problems of children and adolescents. Emphasis on theoretical models and their application to education. Prereq: grad st; ExcEduc 620.

970 Seminar: Research on Individuals With Handicapping Conditions. 3 cr. G.

Recent research relevant to individuals with handicapping conditions. Prereq: grad st; ExcEduc 300 or 600.

975 Seminar: Research on Individuals with Hearing Impairments. 3 cr. G.

Review of literature on hearing impairments and education of individials with hearing impairments. Evaluation of recent research. Prereq: grad st; ExcEduc 650.

990 Research or Thesis. 1-6 cr. G.

- Prereq: grad st & cons instr.

999 Independent Reading. 1-3 cr. G.

For benefit of superior graduate students unable to secure needed content in regular courses. Prereq: grad st; cons instr.

FILM STUDIES

School/College: College of Letters and Science

No Degree Conferred: Courses Only

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

412 Global Cinemas - Cinematic Practices in the Context of Globalization: (Subtitled). 3 cr. U/G.
Cinema within global transformations that reshape the way we think about film and its history; cinema's changing impact beyond national borders. Retakable w/chg in topic to 9 cr max. Prereq: jr st or English 290(P); satisfaction of GER English Composition competency req.

700 Teaching Film Studies. 3 cr. G.
Theory of and approaches to teaching film studies on the college level. Prereq: grad st.

FINE ARTS

School/College: College of Letters and Science

No Degree Conferred: Courses Only

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

311 Spatial Interactivity I. 3 cr. U/G.
Introduction to the creation of interactive spatial installation and sculptural works. Students work with sensors, video, audio and kinetic elements to create interactive systems. Prereq: jr st, admis to DIVAS Prog or to Visual Art prog, & Art 118(P); or grad st; or cons instr.

313 Programming for Artists I. 3 cr. U/G.
An introduction to principles and applications of computer programming languages within art practice. Prereq: Jr st, admis to DIVAS prog or to Visual Art prog, & Art 118(P); or grad st; or cons instr.

315 Scripted Interactivity I. 3 cr. U/G.
An introduction to the production and evaluation of screen based interactivity. Techniques can include Flash Action Scripting, Lingo, Javascript, DHTML, etc. Prereq: jr st, admis to DIVAS prog or to Visual Art prog, & Art 118(P); or grad st; or cons instr.

411 Time Space II. 3 cr. U/G.
Advanced temporal and spatial structures as applied to art practice. Prereq: jr st, Fine Art 211(P); or grad st; or cons instr.

489 Fine Arts Workshop I: (Subtitled). 1-6 cr. U/G.
Project-oriented course of variable content and duration, focusing around special aspects of art, dance, film, music and theatre. An interdisciplinary approach will be used. May be repeated with change in topic to max of 9 cr. Prereq: jr st; cons instr.

511 Spatial Interactivity II. 3 cr. U/G.
Advanced course focusing on interactive spatial installation and sculptural works. Work with sensors, video, audio and kinetic elements to create interactive systems. Prereq: jr st, admis to DIVAS prog or to Visual Art prog, & Fine Art 311(P); or grad st; or cons instr.

513 Programming for Artists II. 3 cr. U/G.
Advanced principles and applications of computer programming languages within art practice. Prereq: Jr st, Fine Art 313(P); or grad st; or cons instr.

515 Scripted Interactivity II. 3 cr. U/G.
Advanced course focusing on the production and evaluation of screen based interactivity. Techniques can include Flash Action Scripting, Lingo, Javascript, DHTML, etc. Prereq: jr st, admis to DIVAS prog or to Visual Art prog, & Fine Art 315(P); or grad st; or cons instr.

551 Advanced Digital Media Workshop: 3 cr. U/G.
A short-term, concept oriented workshop in digital media. May be retaken with change in topic to 6 cr max. Prereq: jr st, Fine Art 351(P); or grad st; or cons instr.

553 Advanced Digital Media Seminar: 3 cr. U/G.
Topics and critical issues centering on science and technology within the field of contemporary art. Student research and written/oral reports required. May be retaken with change in topic to 6 cr max. Prereq: jr st, & admis to DIVAS prog or to Visual Art prog; or grad st; or cons instr.

589 Fine Arts Workshop II: (Subtitled). 1-6 cr. U/G.
Advanced project-oriented course, of variable content and duration, focusing around special aspects of art, dance, film, music and theatre. An interdisciplinary approach will be used. May be repeated with change in topic to max of 9 cr. Prereq: jr st; writ cons instr.

599 Arts Internship. 1-6 cr. U/G.
Internships in the arts at museums and galleries; dance, theatre, and production companies; design and advertising firms; government agencies; non-profit organizations; professional artist studios. May be retaken to max of 9 cr. Prereq: jr st; cons instr.

FOREIGN LANGUAGE AND LITERATURE

- Phone: (414) 229-5378
- Fax: (414) 229-2741
- E-mail: mafll@uwm.edu

School/College: College of Letters and Science

Degree Conferred:

- MA in Foreign Language and Literature

Overview

The Departments of Foreign Languages and Linguistics, of French, Italian and Comparative Literature, and of Spanish and Portuguese — under the guidance of a Coordinating Committee — cooperate in offering an interdepartmental, interdisciplinary master's program designed for the student who wishes to focus on language and literature as areas of study broader than national or linguistic borders and to study language and literature on a cross-cultural basis. Students may complete one of the following concentrations: Classical Greek; Classics; Comparative Literature; French and Francophone Language, Literature, and Culture; German Language, Literature, and Culture; Latin; Linguistics; Spanish and Hispanophone Language, Literature, and Culture; and Translation. In addition to these specific concentrations, students may pursue course work in Hebrew Studies, Italian Studies, and Slavic Languages.

Inquiries concerning this program should be directed to the Coordinator of the Foreign Language and Literature program.

Graduate Faculty

Arabic

Assistant Professor
- Seymour-Jorn, Caroline, Ph.D., University of Chicago

Classics

Professors
- Monti, Richard C., Ph.D., Harvard University
- Mulroy, David D., Ph.D., Stanford University

Assistant Professor
- Muse, Kevin, Ph.D., University of North Carolina
- Cova, Elisabetta, Laurea, Università degli Studi di Bologna

Comparative Literature

Professors
- Baldassaro, Lawrence, Ph.D., Indiana University
- Pickering-Iazzi, Robin, Ph.D., University of Washington
- Verdier, Gabrielle, Ph.D., Yale University

Associate Professor
- Alkhas, Anita, Ph.D., Michigan State University
- Bolduc, Michelle, Ph.D., University of Oregon
- Paik, Peter, Ph.D., Cornell University
- Rascon, Susan, J.D., Marquette University
- Xu, Jian, Ph.D., University of Iowa

Assistant Professors
- Pitt, Kristin, Ph.D., University of Wisconsin - Madison
- Seymour-Jorn, Caroline, Ph.D., University of Chicago

French

Professor
- Verdier, Gabrielle, Ph.D., Yale University

Associate Professors
- Alkhas, Anita, Ph.D., Michigan State University
- Kuiper, Lawrence, Ph.D., Michigan State University
- Mileham, James W., Ph.D., University of Wisconsin-Madison
- Terando, Lorena, Ph.D., State University of New York-Binghamton
- Vatan, Florence, Ph.D., University of Chicago

German

Professor
- Schwertfeger, Ruth, B. Litt., Oxford University

Associate Professor
- Davis, Garry W., Ph.D., University of Michigan

Assistant Professors
- Schueller, Jeanne, Ph.D., University of Wisconsin - Madison
- Watson, Jennifer, Ph.D., University of Illinois, Urbana - Champaign

Hebrew Studies

Professor
- Mazor, Yair, Ph.D., Tel Aviv University

Italian

Professors
- Baldassaro, Lawrence, Ph.D., Indiana University
- Pickering-Iazzi, Robin, Ph.D., University of Washington

Linguistics

Professors
- Eckman, Fred R., Ph.D., Indiana University
- Iverson, Gregory K., Ph.D., University of Minnesota
- Moravcsik, Edith, Ph.D., Indiana University
- Vaux, Bert, Ph.D., Harvard University

Assistant Professors
- Chen, Yea-Fen, Ph.D., Indiana University
- Ouali, Hamid, Ph.D., University of Michigan

Slavic Languages

Professor
- Mikos, Michael J., Ph.D., Brown University

Assistant Professor
- Peschio, Joseph, Ph.D., University of Michigan

Spanish and Portuguese

Professor
- Oxford, Jeffrey, Ph.D., Texas Tech University

Associate Professors
- Ferreira, Cesar, Ph.D., University of Texas-Austin
- McCaw, John, Ph.D., Princeton University
- Rei-Doval, Gabriel, Ph.D., University of Santiago de Compostela, Galicia
- Wheatley, Kathleen, Ph.D., University of Michigan

Assistant Professors
- Bird-Soto, Nancy, Ph.D., University of Wisconsin-Madison
- Crosby, Margaret, Ph.D., University of New Mexico
- Kennedy, Bryan, Ph.D., University of North Carolina-Chapel Hill

Master of Arts in Foreign Language and Literature

Admission

An applicant must meet Graduate School requirements plus these program requirements to be considered for admission to the program:

1. Knowledge of a language other than English. Entrance competencies for specific concentrations are as follows:
   - **Language concentrations:** an undergraduate major in the language, or comparable background, such as coursework, a significant immersion experience, or native fluency combined with appropriate academic training.
   - **Translation concentration:** competence on a qualifying examination.
   - **Comparative Literature concentration:** an undergraduate major in comparative literature, including advanced study of a language other than English, or equivalent literary and language preparation.
   - **Linguistics concentration:** an undergraduate major in linguistics or in a related field, such as English, a foreign language, psychology, philosophy, or anthropology; and at least a basic-level familiarity with a language other than English, as evidenced by coursework, immersion experience or native fluency.
2. Submission to the MAFLL Program of three letters of recommendation, at least two of which should be from instructors acquainted with the student's academic work.

3. Submission to the MAFLL Program of a well-developed statement of approximately 500 words outlining the applicant's academic background and interests, reasons for graduate study in the MAFLL program, intended concentration and professional goals.

Applicants who meet general Graduate School requirements (an undergraduate grade point average of at least 2.75) and the above program requirements may be admitted in good standing.

Upon recommendation of the Coordinating Committee, an applicant lacking in course background may be admitted with specified deficiencies in the above on the condition that the deficiencies be made up by the end of the first full semester (9-12 credits). Credits earned in making up deficiencies do not count toward the degree. If an applicant furnishes substantial evidence of capacity to do satisfactory graduate work despite a deficiency in GPA on admission, probationary admission may be recommended.

Transfer of Credits

Any course submitted for transfer must be no more than five years old at the time of the student's admission to the MAFLL Program, must have been taken at the graduate level in a recognized institution, and must have been completed with a grade of B or better. Since Graduate School regulations allow the transfer of only 12 non-degree graduate credits to a master's program, students are advised to apply for degree candidacy in the MAFLL program before completion of 12 credits of course work.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations.

The Coordinating Committee refers each incoming student to a temporary advisor, normally the Graduate Advisor in the student's chosen concentration, as stated in the application. The Graduate Advisor assists in assessing the student's competencies, interests, and future academic or professional needs. Normally, the Graduate Advisor recommends a Major Professor after his/her initial meeting with the student.

The Major Professor and the student establish a plan of study by the end of the student's first semester of graduate work. The plan will be reviewed by the Major Professor and the student after the successful completion of 12 credits and the removal of any deficiencies that may have been assessed at admission. At the time of the review, the student may request another Major Professor in the event that his/her programmatic needs have been modified or altered. Subsequent minor changes must be approved by the Major Professor.

The Major Professor evaluates and updates the student's progress after completion of every six (6) credits or every semester of subsequent work. The student may not register for any courses without this advisor's prior approval.

Credits and Courses

No credits carrying a grade below B- may be counted toward meeting the MAFLL degree requirement of 30 credits.

The MAFLL degree offers two tracks: the Standard Track within which students may complete one of eight concentrations and the Translation track, which will be designated as a concentration on the student's transcript. Students are not obligated to elect a concentration, but many will find it beneficial to do so. They also have the option of completing two concentrations, but, in doing so, students must complete all requirements for each concentration and a minimum of 36 credits for the degree. Double concentrations with Translation and another concentration require a total of 41 credits.

Standard Track

Thirty graduate credits are required, 6 of which must be in core seminars in the Foreign Language, Literature, and Linguistics areas. The student develops a program of study in consultation with the Major Professor, normally including the following:

1. Two core seminars as a foundation in basic aspects of languages, literatures, and linguistics.
2. Five to eight courses in a language, literature, or linguistics area to permit concentration in the student's major area of interest.
3. Up to three courses in related areas to give the program breadth.

The following are the minimum course requirements for a concentration within the Standard Track:

- **Classical Greek:** at least 15 graduate credits in Greek
- **Classics:** at least 18 credits of graduate level course work consisting of an equal number of credits in classical Greek and in Latin
- **Comparative Literature:** at least 15 graduate credits in Comparative Literature
- **French and Francophone Language, Literature, and Culture:** at least 15 graduate credits in French
- **German Language, Literature, and Culture:** at least 15 graduate credits in German
- **Latin:** at least 15 graduate credits in Latin
- **Linguistics:** the two core seminars selected from Linguis 708(701), MAFLL 706, CurrIns 800, and Philos 681; five courses in Linguis, including 460, 464, and three additional linguistics courses in or outside the Department of Foreign Languages and Linguistics; 9 cr electives selected in consultation with the student's advisor (may include up to 6 cr in MAFLL 790 Thesis)
- **Spanish and Hispanophone Language, Literature, and Culture:** at least 15 graduate credits in Spanish

Translation Track

Students must earn thirty graduate credits, as indicated below; they may not count undergraduate credits earned in the Translation Certificate Program. Admission is based in part on a qualifying examination that consists of a 300-word translation from the source to the target language and one 150-word essay in the target language.

The following courses are required:

- CompLit/Trnsltn 820 Translation Theory, 3 cr
- MAFLL/Trnsltn 709 Seminar in Literary and Cultural Translation, 3 cr
- Trnsltn 726 Computer-Assisted Translation, 3 cr
- Trnsltn 730 Translation Internship, 3 cr

Language-Specific Courses (9 credits) - select one of the following concentrations:

French to English

- French/Trnsltn 415 Introduction to Translation: French to English
- French/Trnsltn 515 Seminar in Advanced Translation: French to English
- Trnsltn 710 Comparative Systems for Translation

German to English

- German/Trnsltn 425 Introduction to German Translation
- German/Trnsltn 525 Seminar in Advanced German Translation
- German 672 German for Professional Purposes OR Trnsltn 710 Comparative Systems for Translation

Spanish to English

- Spanish/Trnsltn 707 Introduction to Translation: Spanish to English
- Spanish/Trnsltn 717 Seminar in Advanced Translation: Spanis
- Trnsltn 710 Comparative Systems for Translation

English to Spanish

- Spanish 348/Trnsltn Introduction to Translation: English to Spanish
- Spanish 448/Trnsltn Seminar in Advanced Translation: English to Spanish
- Trnsltn 710 Comparative Systems for Translation

Work in other languages may be possible with the approval of the coordinator, depending

upon the availability of appropriate faculty members for language-specific independent study.

Electives (9 credits). Select three courses from the following. Additional appropriate courses may be selected with the consent of the program coordinator.

MAFLL/Translation Courses

- Linguis/MAFLL 708(701) Proseminar in Linguistics
- MAFLL 790 Thesis (up to 6 cr)
- Spanish/Trnsltn 349 Introduction to Interpreting
- Spanish/Trnsltn 449 Advanced Court Interpreting
- Trnsltn 530 (FLL 525) Business and Professional Aspects of Translation
- Trnsltn 720 Topics in Translation: (Subtitle)
- A course in the student's area of translation specialization, 3 cr
- Translation course(s) in another language, 3-6 cr

Other Approved Electives

- English 434 Editing and Publishing
- English 439 Document Design
- English 708 Advanced Professional Writing
- English 709 Rhetoric, Writing and Information Technology

Thesis

Up to 6 graduate credits may be earned by presentation of a satisfactory thesis. The student's Major Professor, in consultation with the student, will recommend the names of a Thesis Director and two readers who, upon approval by the Coordinating Committee, will constitute the ad hoc Thesis Committee.

Comprehensive Examination

The student must pass both written and oral examinations, prepared and administered by an Examining Committee. The composition of the committee is approved by the Coordinating Committee. If the student fails the examination, s/he may repeat it once, but no sooner than three months from the date of the first examination.

Comparative Literature students must demonstrate a reading knowledge of a second language other than English prior to taking their Comprehensive Examinations. Reading knowledge may be demonstrated by coursework in the specific language program or by written examination, to be determined with the Major Professor.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

MAFLL/MLIS Coordinated Degree Program

In cooperation with the School of Information Studies, MAFLL offers a MAFLL/MLIS program to prepare students for specialized positions in libraries. Students enrolled in this program will concurrently pursue a MA degree in Foreign Language and Literature and a MLIS degree. Candidates for the coordinated degree program will be expected to fulfill the degree requirements of both graduate programs. Degrees will be awarded simultaneously.

Students interested in the MAFLL/MLIS program will be expected to follow all of the requirements and standards as described in this section of the Bulletin. Nine of the 30 credits normally required for a MAFLL degree will be satisfied by courses taken in SOIS. In the coordinated degree program, MAFLL thesis option credits will be in addition to the 21 required MAFLL credits. Courses in related areas must be approved by the Coordinator of MAFLL.

Certificate in Translation

The Certificate in Translation offers professional training to students in French, German and Spanish who wish to pursue careers in translation or in areas of government or business requiring professional use of a language other than English.

Applicants to the Certificate Program must hold a bachelor's degree with an overall GPA of 2.75 or must provide substantial evidence of ability to succeed in graduate level work. They may apply to the Graduate School as candidates for the Translation Certificate in non-degree status or pursue the Certificate while enrolled in another graduate program.

A degree in the foreign language of concentration, or advanced study in that area, is desirable. In addition, admission to the program is based in part on a proficiency examination administered by the Program coordinator and an appropriate member of the Advisory Committee. The two-hour exam consists of a 300-word translation from the source to the target language and one 150-word essay in the target language.

Certificate coursework at the graduate level may be applied toward an MA degree in the MAFLL Program. A maximum of 12 credits of the certificate coursework may be taken at the undergraduate level, but only credits earned at the graduate level may count toward the MA degree. Required courses completed as part of the undergraduate degree will not count toward the certificate requirements; in such cases, students, in consultation with the certificate program coordinator, will select additional appropriate elective courses to complete a minimum of 24 certificate program credits after the baccalaureate degree has been awarded.

Program Requirements

Students must complete 24 credits of required courses, with a maximum of 12 credits taken at the undergraduate level, including the following:

- MAFLL/Trnsltn 709 Seminar in Literary and Cultural Translation, 3 cr
- Trnsltn 726 Computer-Assisted Translation, 3 cr
- Trnsltn 730 Translation Internship, 3 cr

Language Concentration

Students must select a language concentration and complete the three courses (9 cr) listed below for that concentration. Concentrations in languages other than French, German, and Spanish may be selected if faculty members who can teach independent study courses in the alternative language are available. An alternate concentration requires approval of the certificate program coordinator.

French to English

- French/Trnsltn 415 Introduction to Translation: French to English, 3 cr
- French/Trnsltn 515 Seminar in Advanced Translation: French to English, 3 cr
- Trnsltn 710 Comparative Systems for Translation, 3 cr

German to English

- German/Trnsltn 425 Introduction to German Translation, 3 cr
- German/Trnsltn 525 Seminar in Advanced German Translation, 3 cr
- Trnsltn 710 Comparative Systems for Translation, 3 cr OR German 672 German for Professional Purposes, 3 cr

Spanish to English

- Spanish/Trnsltn 707 Introduction to Translation: Spanish to English, 3 cr
- Spanish/Trnsltn 717 Seminar in Advanced Translation: Spanish to English, 3 cr
- Trnsltn 710 Comparative Systems for Translation, 3 cr

English to Spanish

- Spanish/Trnsltn 348 Introduction to Translation: English to Spanish, 3 cr
- Spanish/Trnsltn 448 Seminar in Advanced Translation: English to Spanish, 3 cr
- Trnsltn 710 Comparative Systems for Translation, 3 cr

Electives: In consultation with the program coordinator, students must select 6 credits from the following courses. Additional appropriate courses may be counted toward the certificate with the consent of the coordinator.

MAFLL/Translation Courses

- Linguis/MAFLL 708 Proseminar in Linguistics, 3 cr

- MAFLL 790 Thesis, 3 or 6 cr
- Spanish/Trnsltn 349 Introduction to Interpreting, 3 cr
- Spanish/Trnsltn 449 Advanced Court Interpreting, 3 cr
- Trnsltn 530 (FLL 525) Business and Professional Aspects of Translation, 3 cr
- Trnsltn 720 Topics in Translation: (Subtitle), 3 cr
- Trnsltn 820 Translation Theory
- One course in the student's area of translation specialization, 3 cr
- One translation course in another language, 3 cr

Other Approved Electives

- English 434 Editing and Publishing, 3 cr
- English 439 Document Design, 3 cr
- English 708 Advanced Professional Writing, 3 cr
- English 709 Rhetoric, Writing and Information Technology, 3 cr
- Students must earn at least an average GPA of 3.0 in courses completed at the graduate level as well as a 3.0 GPA average on all credits (U and G) completed for the certificate.

Courses - Foreign Language and Literature

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

700 Language Teaching Methods. 3 cr. G.
Introduction to practical issues of language instruction for new teaching assistants and language teachers; explores some theoretical issues related to second- and foreign language learning. Prereq: grad st; cons MAFLL coord comm chair

702 Seminar in Literary Forms: (Subtitled). 3 cr. G.
Study of specific forms and genres (narrative, epic, lyric, dramatic, etc) stressing the effects of compositional patterns and expressive modes on the representation of content. Specific topics and any additional prerequisites announced in schedule of classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons MAFLL coord comm chair.

703 Seminar in Language and Communication: (Subtitled). 3 cr. G.
Survey of basic theories on the nature of language and of the modes of verbal communication, with emphasis on the socio-cultural aspects. Prereq: grad st; cons MAFLL coordinator; proficiency in a language other than english.

704 Seminar in Cultural Studies: (Subtitled). 3 cr. G.
Investigation of cultural phenomena in their socio-historical contexts in their symbolization in folklore, literature, and art. Specific topics and any additional prereqs announced in the Schedule of Classes each time course is offered. CompLit 704 & MAFLL 704 are jointly offered; they count as repeats of one another. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons MAFLL coord comm chair.

706 Seminar in Foreign Language Methodology and Pedagogy. 3 cr. G.
Nature and direction of recent developments in foreign language methodology and instructional principles. Prereq: grad st; cons MAFLL coord comm chair.

707 (701) Seminar in Methods of Literary Analysis: (Subtitled). 3 cr. G.
Two or more theoretical and methodological approaches to literature, with application to selected literary texts. Specific topics and any additional prerequisites announced in Schedule of Classes each time course is offered. CompLit 707 & MAFLL 707(701) are jointly offered; they count as repeats of one another. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons MAFLL coord comm chair.

708 Proseminar in Linguistics. 3 cr. G.
Presents a range of linguistic constructs, demonstrating through readings, problems, and exercises how these concepts can be used in the analysis of language. Linguis 708(701) & MAFLL 708 are jointly offered; they count as repeats of one another. Prereq: grad st.

709 Seminar in Literary and Cultural Translation. 3 cr. G.
Study and practice of literary translation in its cultural setting. Discussion of essays, analysis of published translations, translation practice, and collegial discussion of students' work. MAFLL 709 & Trnsltn 709 are jointly offered; they count as repeats of one another. Prereq: grad st.

710 Comparative Systems for Translation. 3 cr. G.
Comparative systems in society; how those systems relate to field of translation; how to make informed translation choices based on subtle differences in systems. MAFLL 710 & Trnsltn 710 are jointly offered; they count as repeats of one another. Prereq: grad st

712 Bibliographic and Research Methodology in Foreign Language and Literature. 1 cr. G.
Discussion of types of research in languages and literatures, bibliographic resources and sources of research support. Prereq: grad st; cons FLL coord comm chair.

721 The Old Testament in Literature and the Arts. 3 cr. G.
The impact of the Old Testament on literature and the arts; its influence on major subsequent reliqious classics and through them on music, philosophy, and the visual arts. Prereq: grad st.

725 Computers in Language and Literature Research. 3 cr. G.
Discusses the scope of linguistic and literary computing, available package programs and the suitability of various computer languages. Offers hands-on programming. Prereq: grad st; CompSci 151 or equiv.

728 Literary Translation. 3 cr. G.
Seminar in literary translation focusing on various genres including prose, poetry, essays, and theater; publication and copyright matters. Prereq: grad st; admission to Translation Program.

740 Approaches to the Modern I. 3 cr. G.
Seminar on the major figures and intellectual forces that have shaped multiple approaches to the modern across the academy. English 740, Hist 740, & MAFLL 740 are jointly offered; they count as repeats of one another. Prereq: grad st.

741 Approaches to the Modern II. 3 cr. G.
Seminar on major figures and intellectual forces that have shaped approaches to the modern across periods. English 741, Hist 741 & MAFLL 741 are jointly offered; they count as repeats of one another. Prereq: grad st.

781 Graduate Study Abroad: Language and Culture: (Subtitled). 1-3 cr. G.
Coursework in a foreign language or culture taken in a UWM exchange program at a foreign university; subject to review and evaluation of the MAFLL program faculty. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons MAFLL coord comm chair.

782 Graduate Study Abroad: Pre-1900 Literature: (Subtitled). 1-3 cr. G.
Coursework in pre-1900 literature taken in a UWM exchange program at a foreign university; subject to review and evaluation of the MAFLL program faculty. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons MAFLL coord comm chair.

783 Graduate Study Abroad: Post-1900 Literature: (Subtitled). 1-3 cr. G.
Coursework in post-1900 literature taken in a UWM exchange program at a foreign university; subject to review and evaluation of the MAFLL program faculty. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons MAFLL coord comm chair.

790 Thesis. 1-6 cr. G.
Independent study and research on a master's thesis under supervision of the student's advisory committee. Retakable to 6 cr max. Prereq: grad st; cons advisory committee.

791 Reading and Research - Greek or Latin. 1-3 cr. G.
Reading and research under the direction of a member of the MAFLL faculty. Prereq: grad st.

792 Reading and Research - Comparative Literature. 1-3 cr. G.
Reading and research under the direction of a member of the MAFLL faculty. Prereq: grad st.
793 Reading and Research - French or Italian. 1-3 cr. G.
Reading and research under the direction of a member of the MAFLL faculty. Prereq: grad st.
794 Reading and Research - German. 1-3 cr. G.
Reading and research under the direction of a member of the MAFLL faculty. Prereq: grad st.
795 Reading and Research - Hebrew or Arabic. 1-3 cr. G.
Reading and research under the direction of a member of the MAFLL faculty. Prereq: grad st.
796 Reading and Research - Language. 1-3 cr. G.
Reading and research under the direction of a member of the MAFLL faculty. Prereq: grad st.
797 Reading and Research - Polish or Russian or Serbo-Croatian. 1-3 cr. G.
Reading and research under the direction of a member of the MAFLL faculty. Prereq: grad st.
798 Reading and Research - Spanish or Portuguese. 1-3 cr. G.
Reading and research under the direction of a member of the MAFLL faculty. Prereq: grad st.
799 Reading and Research. 1-3 cr. G.
Directed reading and research on a topic selected by the student in consultation with his/her advisory committee. Retakable w/chg in topic to 9 cr max. Prereq: grad st.
888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee assessed for 1 cr. Prereq: grad st.

Courses - Classics

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

304 The Graeco-Roman World: (Subtitled). 3 cr. U/G.
Life and literature (in translation) of the ancient Greco-Roman world. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Classic 301(R), 302(R), or 303(R).
497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

Courses - Comparative Literature

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

309 Great Works of Modern Literature: (Subtitled). 3 cr. U/G.
Literature of the twentieth and twenty-first centuries, with emphasis on theme, movement, trend, genre, or mode. Retakable w/chg in topic to 9 cr max. Prereq: jr st; CompLit 207(R) or 208(R).
320 Mediaeval Literature and Culture: (Subtitled). 3 cr. U/G.
Major genres, themes, and figures of the Middle Ages through representative literary works, devotional writings, visual art, architecture, and other examples of cultural production. Retakable w/chg in topic to 9 cr max. Prereq: jr st.
321 Renaissance Literature and Culture: (Subtitled). 3 cr. U/G.
Major genres, themes, figures, tenets, aspects, influences, and trends in Renaissance literature through representative literary works, visual art, architecture, and other examples of cultural production. Retakable w/chg in topic to 9 cr max. Prereq: jr st.
350 Topics in Comparative Literature: (Subtitled). 3 cr. U/G.
One or more areas of comparative literature across periods, genres, or regions. Retakable w/chg in topic to 6 cr max. Prereq: jr st.
360 Seminar in Literature and Cultural Experience: (Subtitled). 3 cr. U/G.
How culture is expressed in literary works with specific emphasis on how dominant and marginalized groups are represented in literature. Retakable w/chg in topic to 6 cr max. Prereq: jr st.
362 Transnational Asian Cinemas: (Subtitled). 3 cr. U/G.
Critical study of the cinemas of Asia, their film masters, avant-garde genres, and movements in relation to world cinema culture. Retakable w/chg in topic to 9 cr max. Prereq: jr st.
363 Chinese Literature in the Global Context: (Subtitled). 3 cr. U/G.
Modern or contemporary Chinese literature; focus on a period, theme, genre, or movement in relation to literary cultures of other countries and regions or world events. Retakable w/chg in topic to 9 cr max. Prereq: jr st.
365 Literatures and Cultures of the Americas: (Subtitled). 3 cr. U/G.
Comparative study of the literatures and cultural expressions of three or more national, ethnic, or linguistic traditions within North and South America and the Caribbean. Retakable w/chg in topic to 9 cr max. Prereq: jr st.
410 Classical Backgrounds of Modern Literature: (Subtitled). 3 cr. U/G.
Influences of classical literature and art upon modern literature. Retakable w/chg in topic to 9 cr max. Prereq: jr st.
433 Comparative Mythology. 3 cr. U/G.
Various mythologies and their relations to religion, psychology, the new physics, and selected fictional personages (e.g. Wandering Jew, Tarzan); graduate students do research in theories of myth. Prereq: jr st; Classic 170(R) or CompLit 240(R).
443 Mediaeval Irish Literature and Its Influences. 3 cr. U/G.
The earliest Irish hero-king cycles and the earliest Irish poetry; their relationship to the Continental literature of the Middle Ages. Prereq: jr st.
444 Myths, Legends and Poems of the Celts. 3 cr. U/G.
Reading of the earliest literature of three sister Celtic countries: Ireland, Wales, and Scotland. Analysis of thematic and stylistic elements in the literature and their inter-relationships. Prereq: jr st.
449 Modern and Contemporary Drama. 3 cr. U/G.
Developments in modern drama from the close of the nineteenth century to the present. Readings and analyses of representative plays. Prereq: jr st.
461 Film-Fiction Interaction: (Subtitled). 3 cr. U/G.
Growth and development of film in conjunction with literary devices (narrative, setting, etc.), novels, plays, biographies, and poetry. Mutual influences of literary and cinematic arts. Retakable w/chg in topic to 9 cr max. Prereq: jr st.
463 Literary Criticism: Major Authors. 3 cr. U/G.
The development of critical theories from Plato to the present. Prereq: jr st.
464 Seminar in Comparative Literary Criticism: (Subtitled). 3 cr. U/G.
Principles and theories of literary criticism in a given period; major approaches to literature. Retakable w/chg in topic to 9 cr max. Prereq: jr st.
497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.
501 Seminar in Literary Research in the Humanities. 3 cr. U/G.
Introduction to bibliographic methods: theory and historiography of comparative literature and its practical application to study of humanistic disciplines. Practice in research, information-retrieval, and editing. Prereq: jr st.
504 Seminar in the Novel: (Subtitled). 3 cr. U/G.
The novel in its international development from antiquity to the present, with special

attention each semester to a particular period or movement. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

505 Seminar in Forms of Narrative Fiction from 1945 to the Present. 3 cr. U/G.
Critical analysis of works of fiction that have gained prominence since World War II. Prereq: jr st.

506 Seminar in the Shorter Forms of Fiction. 3 cr. U/G.
Historical survey of the development of the short story and the novella; close analysis of genre theory in the topic area. Prereq: jr st.

533 Seminar in Trends in Modern Literature: (Subtitled). 3 cr. U/G.
Development of important trends, ideas, and forms of world literature, and their contributions to cultural modernity. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

701 Literature and the Other Arts: (Subtitled). 3 cr. G.
The relationships of literature with architecture, music, painting, photography, sculpture, etc. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

702 Literature and the Other Disciplines: (Subtitled). 3 cr. G.
The relations of literary studies to various academic disciplines (e.g., anthropology, philosophy, political science, sociology, mathematics, etc.). Retakable w/chg in topic to 9 cr max. Prereq: grad st.

704 Seminar in Cultural Studies: (Subtitled). 3 cr. G.
Investigation of cultural phenomena in their socio-historical contexts and in their symbolization in folklore, literature, and art. Specific topics and any additional prereqs announced in the Schedule of Classes each time course is offered. CompLit 704 & MAFLL 704 are jointly offered; they count as repeats of one another. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons MAFLL coord comm chair.

707 Seminar in Methods of Literary Analysis: (Subtitled). 3 cr. G.
Two or more theoretical and methodological approaches to literature, with application to selected literary texts. Specific topics and any additional prerequisites announced in Schedule of Classes each time course is offered. CompLit 707 & MAFLL 707(701) are jointly offered; they count as repeats of one another. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons MAFLL coord comm chair.

723 International Literary Relations: (Subtitled). 3 cr. G.
Advanced study of literary crosscurrents on an international scale (e.g., 'existentialist literature in europe and north America', 'English literature in European translations', etc.). Retakable w/chg in topic to 9 cr max. Prereq: grad st.

820 Translation Theory. 3 cr. G.
The role of translation in the development of languages, cultures, and societies; cultural and ideological forces shaping translations; contemporary theories of translation. CompLit 820 & Trnsltn 820 are jointly offered; they count as repeats of one another. Prereq: grad st.

860 Literary Concepts and Genres: (Subtitled). 3 cr. G.
Detailed study of literary concepts. (e.g., realism, symbolism, cubism) and literary genres, with special attention to their history and development of various literary traditions. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

Courses - French

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

410 French Immersion: Advanced. 1 or 2 cr. U/G.
Concentrated, structured practice of spoken French; contemporary topics; small-group setting with native speakers simulates immersion experience. Build vocabulary, improve communication skills. Weekend, interim, or short-term summer modules. Specific credits announced in Schedule whenever course is offered. Retakable to 4 cr max. Prereq: French 324(327)(P) & 325(P), or cons instr.

415 (425) Introduction to Translation: French to English. 3 cr. U/G.
Introduction to basic skills necessary to professional translation. Translation of texts from French into English. Summarizing texts. Sight translation. French 415(425) & Trnsltn 415 are jointly offered; they count as repeats of one another. Prereq: jr st; grade of B or better in French 325(P); French 324(327)(P) or 332(322)(P).

426 (326) Growing Up French. 3 cr. U/G.
French civilization from the point of view of the French child, with emphasis on materials familiar to French children and adolescents. Prereq: jr st; two French courses numbered 320 or above or cons instr.

427 Advanced Written Expression. 3 cr. U/G.
Development of writing proficiency in a variety of genres through close analysis and imitation of good French writing; emphasis on usage, syntax, and authentic French expression. Prereq: jr st & French 324(327)(P) & 325(P), or grad st.

428 Castles, Cathedrals, and Common People: The Foundations of French Culture. 3 cr. U/G.
Study of major aspects of French society and its cultural expressions from the Middle Ages through the Renaissance. Prereq: jr st; French 332(322)(P); French 324(327)(P) or 325(P); or cons instr.

429 Royalty, Reason, and Revolution: The Golden Age of French Culture. 3 cr. U/G.
Major aspects of French society and its cultural expressions from the Renaissance through the Revolution. Prereq: jr st; French 332(322)(P); French 324(327)(P) or 325(P); or cons instr.

430 Reaction and Innovation: French Culture of the 19th and 20th Centuries. 3 cr. U/G.
French politics, society, and culture from Napoleon's First Empire to De Gaulles's Fifth Republic, 1904-1958. Prereq: jr st; French 332(322)(P); French 324(327)(P) or 325(P); or cons instr.

450 Institutions and Culture of Contemporary France. 3 cr. U/G.
Major political, social, cultural and economic forces shaping France today. France within the European Union and the Francophone world. Prereq: jr st; French 325(P); one add'l 300-level French course or cons instr.

451 (351) Cinema of the French-Speaking World: (Subtitled). 3 cr. U/G.
Narrative techniques and thematic content of French-language cinema. Retakable w/chg in topic to 9 cr max. First enrollment only counts toward French major. Prereq: jr st; two of French 324(327)(P), 325(P), 332(322)(P) or cons instr.

457 Topics in French and Francophone Studies in Translation: (Subtitled). 1-3 cr. U/G.
Critical reading, lectures, and discussion of important works on a topic, genre, or historical period, with particular emphasis on intellectual and cultural context. Retakable w/chg in topic to 9 cr max. Prereq: jr st or cons instr.

465 Introduction to Translation: English to French. 3 cr. U/G.
Translation of texts from English into French. Comparative study of French and English syntax and comparative culture. French 465 & Trnsltn 465 are jointly offered; they count as repeats of one another. Counts as repeat of French 499 with "Intro to English to French Translation" topic. Prereq: jr st; grade of B or better in French 325(P); French 427(P) or cons instr.

510 Seminar on Masterpieces of Literature Written in French: (Subtitled). 3 cr. U/G.
Representative works of a major writer or writers. Retakable w/chg in topic to 9 cr max. Prereq: jr st; French 325(P) & 332(322)(P); or cons instr.

515 (526) Seminar in Advanced Translation: French to English. 3 cr. U/G.
Translation from French into English; advanced grammar; techniques of documentation. French 515(526) & Trnsltn are jointly offered; they count as repeats of one another. Prereq: jr st; French 415(425)(P) or cons instr.

520 Seminar in Contemporary French Literature: (Subtitled). 3 cr. U/G.
Trends and schools in contemporary novels, theatre, and poetry. Retakable w/chg in topic to 9 cr max. Prereq: jr st; French 325(P) & 332(322)(P); or cons instr.

527 Seminar on Prose Written in French: (Subtitled). 3 cr. U/G.
Read, analyze, discuss, and report on selected novels, essays, journals, and other documents written in French. Retakable w/chg in topic to 9 cr max. Prereq: jr st; French 325(P) & 332(322)(P); or cons instr.

528 (657) Seminar on Poetry Written in French: (Subtitled). 3 cr. U/G.
Read, analyze, discuss, and report on selected poems written in French as well as works written about them, such as criticism and biographies of poets. Retakable w/chg in topic to 9 cr max. Prereq: jr st; French 325(P) & 332(322)(P); or cons instr.

529 (643) Seminar on Dramatic Works Written in French: (Subtitled). 3 cr. U/G.
Read, analyze, discuss, and report on selected plays written in French as well as historical or critical works written about them. Retakable w/chg in topic to 9 cr max. Prereq: jr st; French 325(P) & 332(322)(P); or cons instr.

592 Seminar in French Language: (Subtitled). 3 cr. U/G.
Historic, social, geographic, phonological, and lexical evolution of French. How French fits into global and regional contexts. Retakable w/chg in topic to 9 cr max. Prereq: jr st; two of French 324(327)(P), 325(P), & 332(322)(P); French 392(P); or cons instr.

700 (706) Practicum in French Language Teaching Methods. 1 cr. G.
Practical application within French of methods and concepts taught in MAFLL 700. Retakable to 2 cr max. Prereq: grad st; MAFLL 700(C) or cons instr.

731 Seminar in Literature of the Francophone World: (Subtitled). 3 cr. G.
Works written in French by writers of Africa, North Africa, the Caribbean, and Quebec. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

732 Topics in French and Francophone Culture: (Subtitled). 1-3 cr. G.
Advanced study of selected topics in the cultures of France or french-speaking countries. Retakable w/chg in topic to 9 cr max. Not open for cr to students w/cr in French 432 w/same subtitle. Prereq: Grad st; cons instr.

733 Seminar in French Literature: (Subtitled). 3 cr. G.
In-depth study of important works of French literature. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

797 Study Abroad: (Subtitled). 1-6 cr. G.
Designed to enroll graduate students in UWM sponsored program before course work, level, content, and credits are determined and/or in specially-prepared program course work. Retakable w/chg in topic. Prereq: acceptance for Study Abroad Prog.

799 Independent Study: (Subtitled). 1-3 cr. G.
Supervised study with a member of the graduate faculty. Retakable w/chg in topic to 6 cr max. Prereq: grad st; cons instr.

Courses - German

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

410 German Cultural History. 3 cr. U/G.
Major aspects of German culture from the Middle Ages to the end of the 18th century. Prereq: jr st; German 332(426)(P); German 333(R) & 334(R).

411 Modern-Day Germany. 3 cr. U/G.
Continuation of German 410; the 19th and 20th centuries. May be taken before or after German 410. Prereq: jr st; German 332(426)(P); German 333(R) & 334(R).

415 Topics in German Civilization: (Subtitled). 3 cr. U/G.
In-depth study of selected topics of German civilization. Critical analysis and practical application of texts and teaching aids. Recommended for present and future high school teachers. Retakable w/chg in topic to 9 cr max. Prereq: jr st; German 332(426)(P); German 333(R) & 334(R).

425 Introduction to German Translation. 3 cr. U/G.
Introduction to basic skills necessary to professional translation. Translation of texts from German into English and from English into German. Summarizing texts. Sight translation. German 425 & Trnsltn 425 are jointly offered; they count as repeats of one another. Prereq: jr st; German 332(426)(P), 333(P), & 334(P).

451 Introduction to German Linguistics. 3 cr. U/G.
The nature of linguistics; aspects of phonology, morphology, syntax, semantics; discourse and text; varieties of German; acquisition of German as a foreign language. Prereq: German 332(426)(P).

460 German Literature from 1965 to the Present: 3 cr. U/G.
Literary writers and works of the German-speaking countries from 1965 to the present. Prereq: jr st; German 332(426)(P) , 333(P), & 334(P).

488 Topics in German Philology: (Subtitled). 3 cr. U/G.
Topics pertaining to advanced German language study or to the development of the German language in its spoken or written form. Retakable w/chg in topic to 6 cr max. Prereq: jr st; German 332(426)(P); German 333(R) & 334(R).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work levels, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

511 Survey of German Literature from the Middle Ages to the Baroque. 3 cr. U/G.
The major writers of the medieval period, the Reformation, and the Baroque in the context of the European literary tradition. Prereq: jr st, & one course from the group German 450-458(P).

525 Seminar in Advanced German Translation. 3 cr. U/G.
Refinement of translation skills; concentration on specific types of texts. German 525 & Trnsltn 525 are jointly offered; they count as repeats of one another. Prereq: jr st; German/Trnsltn 425(P).

626 (526) Advanced German Grammar and Usage. 3 cr. U/G.
Analysis and discussion of a variety of text topics and genres. Practice in speaking and writing German; attention to written accuracy and sophistication of form. Prereq: jr st; German 332(426)(C). Generates L&S credit for demonstrated equivalent preparation (14 retro cr).

641 Seminar in the Intellectual Tradition in German Literature and Thought: (Subtitled). 3 cr. U/G.
Major philosophical and social movements in relation to literature. Retakable w/chg in topic to 9 cr max. Prereq: jr st; one course from the group German 450-458(C).

643 Seminar on Genre Studies: (Subtitled). 3 cr. U/G.
Major genres in German literature -- the drama, the novel, the novelle, poetry and film. Retakable w/chg in topic to 9 cr max. Prereq: jr st; one course from the group German 450-458(C).

645 Seminar on Representative German Authors: (Subtitled). 3 cr. U/G.
Works of representative authors. Any add'l prereqs announced in Schedule of Classes each time course is offered. Retakable w/chg in topic: undergrad, unlimited; grads, 9 cr max. Prereq: jr st; one course from the group German 450-458(P).

647 Seminar on Themes and Motifs in German Literature: (Subtitled). 3 cr. U/G.
Recurring patterns and figures in the major genres. Retakable w/chg in topic to 9 cr max. Prereq: jr st; one course from the group German 450-458(C).

649 Seminar on Theoretical Approaches to German Literature: (Subtitled). 3 cr. U/G.
Particular theoretical ideas and methods applied to selected texts; literary movements in relation to philosophy and

aesthetics. Retakable w/chg in topic to 9 cr max. Prereq: jr st; one course from the group German 450-458(C).

651 Seminar on Contemporary German Literature: 1965 to the Present. 3 cr. U/G.
Recent developments in German literature. Prereq: jr st; one course from the group German 450-458(C).

671 Seminar on Phonetics. 3 cr. U/G.
Articulatory phonetics and phonemics, emphasis on English-German contrasts and pronunciation difficulties; phonetic transcription; drills in pronunciation. Prereq: jr st; German 331(P).

672 (461) German for Professional Purposes. 3 cr. U/G.
Language and structures of Germany's professional world. Historical, political, legal, economic, social and cultural forces shaping Germany today. Prereq: jr st; German 332(426)(P), 333(P)& 334(P).

681 Seminar on the History and Structure of German. 3 cr. U/G.
Historical development of the German language from its beginnings to the present. Prereq: jr st; German 204(P).

700 (706) Practicum in German Language Teaching Methods. 1 cr. G.
Practical application within German of methods and concepts taught in MAFLL 700. Retakable to 2 cr max. Prereq: grad st; MAFLL 700(C) or cons instr.

730 Twentieth-Century Literary Studies: (Subtitled). 3 cr. G.
Topics from 1889 to the present, e.g. naturalism; expressionism; the twenties; the literature of the emigrants; postwar literature; the contemporary scene; etc. Specific topic and any additional prerequisites will be announced in schedule of classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

Courses - Greek

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

372 The New Testament. 1-2 cr. U/G.
Study of Koine Greek and quantitative readings in the Greek New Testament. 1 grad cr allowed for grad students conc enrolled in Classic 304; 2 cr for undergrads. Prereq: jr st; Greek 104(P).

501 Readings in Classical Greek Prose: (Subtitled). 3 cr. U/G.
Extensive reading in a major author, or in related authors, of ancient Greek prose; e.g., Herodotus, Thucydides, Plato, the Attic Orators, Aristotle, Lucian. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Greek 306(P) or equiv; equiv H.S. prep determined by placement test. Generates L&S credit for demonstrated equivalent preparation (14 retro cr).

502 Readings in Ancient Greek Poetry: (Subtitled). 3 cr. U/G.
Extensive reading in a major author, or related authors, of ancient Greek poetry; e.g., Homer, the Greek lyric poets, the Attic tragedians, Aristophanes, Menander, Theocritus. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Greek 306(P) or equiv; equiv H.S. prep determined by placement test. Generates L&S credit for demonstrated equivalent preparation (14 retro cr).

Courses - Hebrew Studies

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

311 Fourth-Year Hebrew. 3 cr. U/G.
Problems in Hebrew literature. Conducted in Hebrew. Prereq: jr st & Hebr St 302(P). Not available for grad cr.

312 Fourth-Year Hebrew. 3 cr. U/G.
Problems in Hebrew literature. Conducted in Hebrew. Prereq: jr st & Hebr St 302(P). Not available for grad cr.

411 Old Testament Texts: (Subtitled). 3 cr. U/G.
Reading of Hebrew text through grammatical and critical analysis. Specific topics and any additional prerequisites will be announced in Schedule of Classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Hebr St 106(P) or 202(P).

413 Literary Analysis of Biblical Narrative. 3 cr. U/G.
The nature of biblical narrative. Structure and message. Repetition and analogy. Artistic devices. Prereq: Hebr St 411(P). Not available for grad cr.

415 Survey of Hebrew Poetry. 3 cr. U/G.
Principal works and authors of Hebrew poetry in biblical and payyetnic period. Original Hebrew texts are analyzed. Prereq: jr st; Hebr St 106(P) or 202(P).

416 Survey of Hebrew Poetry. 3 cr. U/G.
Principal works and authors of Hebrew poetry in medieval and modern periods. Original Hebrew texts are analyzed. Prereq: jr st; Hebr St 106(P) or 202(P).

420 Introductory Aramaic - Biblical. 3 cr. U/G.
Introduction to Aramaic language. Biblical passages in Aramaic analyzed for understanding of this Semitic language used throughout ancient Near East in fifth century B.C.E. Prereq: jr st; Hebr St 202(P) or 206(P).

471 Introduction to the Midrash: (Subtitled). 3 cr. U/G.
Reading and interpretation of selected Hebrew and Aramaic texts from the Midrashic literature (Mekhilta, Sifre, Bereshit Rabba) with special regard to the method and terminology of rabbinic exegesis. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Hebr St 106(P) or 202(P).

472 Introduction to the Midrash: 3 cr. U/G.
Continuation of Hebr St 471. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Hebr St 106(P) or 202(P).

474 Introduction to the Mishna. 3 cr. U/G.
Continuation of Hebr St 473. Prereq: jr st; Hebr St 202(P) or 206(P).

475 Introduction to the Targum. 3 cr. U/G.
Survey of targumic literature, linguistic analysis of its Aramaic dialect, and examination of its place in rabbinic literature and textual biblical criticism. Prereq: jr st; Hebr St 202(P) or 206(P).

476 Introduction to the Targum. 3 cr. U/G.
Continuation of Hebr St 475. Analysis of the Targum Jonathan to the prophets and the various Midrashic Targumim to the Hagiographa. Prereq: Hebr St 202(P) or 206(P). Not available for grad cr.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored programs before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

Courses - Italian

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

333 Dante's Divine Comedy in Translation. 3 cr. U/G.
A close reading of the Inferno, Purgatorio, and Paradiso. Grad students specializing in Italian will fulfill course requirements in Italian. Prereq: jr st.

391 Phonetics. 2 cr. U/G.
Theory of Italian sounds; phonetic transcription; practice in pronunciation. Language lab may be required. Prereq: jr st & Italian 311(P) or 312(P); or grad st.

457 Topics in Italian Literature and Culture in Translation: (Subtitled). 3 cr. U/G.
Critical reading, lectures, and discussion of major works on a topic, genre, or period; attention to cultural and historical context. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

460 The Italian Novel from Manzoni to the Present. 3 cr. U/G.
Major trends and critical problems. Prereq: jr st, Italian 321(P) & 322(P), & cons instr; or grad st.

463 Italian Poetry from Romanticism to Hermeticism. 3 cr. U/G.
Foscolo, Leopardi, Carducci, Pascoli, D'Annunzio, Marinetti, Campana, Ungaretti, Montale, Quasimodo. Prereq: jr st & Italian 321(P) & 312(P); or grad st.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

552 The Renaissance: 3 cr. U/G.
One or more aspects of intellectual, literary, and artistic production in Italy from Petrarch and Humanism to the Counter-Reformation. Retakable w/chg in topic to 9 cr max. Prereq: jr st & Italian 311(P) & 312(P); or grad st.

659 The Divine Comedy. 3 cr. U/G.
Lectures on the life and times of Dante and reading of selected passages from his minor works. Prereq: jr st & Italian 311(P) & 312(P); or grad st.

660 The Divine Comedy. 3 cr. U/G.
Continuation of Italian 659. Prereq: jr st & Italian 659(P) or cons instr; or grad st.

670 Studies in Italian Literature: 3 cr. U/G.
Major movements or periods, criticism, studies in genres, relations between literature and other disciplines/arts. Retakable w/chg in topic to 9 cr max. Prereq: jr st & Italian 311(P) & 312(P); or grad st.

729 Major Film Directors: (Subtitled). 3 cr. G.
Thematic, stylistic, and aesthetic study of outstanding figures of the Italian cinema. Retakable w/chg in topic to 9 cr max. Prereq: grad st

Courses - Latin

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

501 Readings in Latin Prose: (Subtitled). 3 cr. U/G.
Extensive reading in a major author or related major authors; e.g., Cicero, Caesar, the historians, Seneca, Pliny the Younger. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Latin 306(P) or equiv; equiv H.S. prep determined by placement test. Generates L&S credit for demonstrated equivalent preparation (16 retro crs).

502 Readings in Latin Poetry: (Subtitled). 3 cr. U/G.
Extensive reading in a major or related major authors, e.g., the comic dramatists, the lyric poets, the elegists, the satirists, the writers of epic. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Latin 306(P) or equiv; equiv H.S. prep determined by placement test. Generates L&S credit for demonstrated equivalent preparation (16 retro crs)..

508 Latin Prose Composition. 3 cr. U/G.
Survey of Latin syntax and idioms, with appropriate exercises in prose composition. Required of Latin majors. Prereq: Latin 310(P) or equiv prep as judged by instr.

Courses - Linguistics

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

370 General Phonetics and Phonetics Practicum. 3 cr. U/G.
Study of linguistic phonetics, including articulatory physiology, acoustics, and speech perception. Practice in production and transcription of a wide variety of speech sounds. 3 hrs lec with practicum. Prereq: jr st.

390 Fundamentals of Linguistic Analysis. 3 cr. U/G.
Introduction to the systematic analysis of language. Principles and methods of describing phonological and syntactic processes. Prereq: jr st & Linguis 350(P) or 400(P).

398 Topics in Linguistics: (Subtitled). 1-6 cr. U/G.
Topics in any of several recognized areas of linguistics. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

400 Introduction to English Linguistics. 3 cr. U/G.
Application of linguistic theory and techniques to modern English. Linguis/English 400 required of all English majors and minors in School of Education. Jointly-offered with & counts as repeat of English 400. Prereq: jr st; satisfaction of GER English Composition competency req.

410 Linguistics and Grammar in ESL Education. 3 cr. U/G.
Grammatical and other linguistic concepts relevant to ESL education; implications for teaching language, reading and composition. Topics include language acquisition and grammatical problems in language/dialect variation. Prereq: jr st & Linguis 350(P).

412 Applied Phonology. 3 cr. U/G.
An introduction to the application of phonetic and phonological principles to problems concerning disordered speech, language learning, and inter-language. Prereq: jr st & Linguis 350(P) & 370(P).

420 Introduction to Second Language Acquisition. 3 cr. U/G.
Principles and methods of describing and comparing the structure of two or more languages with emphasis on the implications of this comparison for language learning. Prereq: jr st; Linguis 350(P) or equiv.

430 Language and Society. 3 cr. U/G.
The influence of society on language and of language on society. Language as social interaction, speech styles, social dialects; effects on language change. Prereq: jr st & Linguis 350(P).

440 Psycholinguistics. 3 cr. U/G.
A survey of the history, goals, methods, and findings of psycholinguistics. Principal topics: phonetic perception, speech production, syntactic processing, linguistic memory, meaning, and language acquisition. Prereq: jr st; Linguis 350(R) or Psych 101(R); or grad st & cons instr.

460 Sounds and Sound Systems. 3 cr. U/G.
Basic properties of sounds, sound patterns, and sound processes of spoken language. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

464 Word and Sentence Structure. 3 cr. U/G.
Study of word and sentence formation in languages. Practice in analysis and argumentation using data from various languages. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

466 Semantics. 3 cr. U/G.
The study of meaning in language; its role in grammatical description. Basic concepts used in semantic analysis and discussion of their place in grammatical theory. Prereq: jr st & Linguis 260(P) or 350(P) or Philos 211(P), or grad st & cons instr.

468 Language in its Various Forms: (Subtitled). 3 cr. U/G.
Analysis and description of various language types. Topics may include language change, language development, dialectology, and language typology. Retakable w/chg in topic to 9 cr max. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

470 Historical/Comparative Linguistics. 3 cr. U/G.
The study of language change; introduction to internal reconstruction and the comparative method; generative approaches to historical change. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

474 Language Typology and Language Universals. 3 cr. U/G.
Comparison of phonetic, syntactic, and lexical patterns of different languages, with emphasis on deriving statements about properties of all languages or of significant subclasses of languages. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

476 Linguistic Theory. 3 cr. U/G.
Survey of twentieth century American linguistic theories from traditionalism through American structuralism to generative grammar, including discussion of some current issues. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

490 Field Methods. 3 cr. U/G.
Work with a native speaker of a foreign language. Gathering and collation of data. Evaluation of possible phonemic and grammatical analyses. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

492 Structure of a Language: (Subtitled). 3 cr. U/G.
Structure of a non-Indo-European language or an uncommonly-taught Indo-European language such as Hindi, Persian, Yiddish, etc. Retakable w/chg in language to 9 cr

max. Prereq: jr st & Linguis 350(P), or grad st & cons instr.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

560 Advanced Phonology. 3 cr. U/G.
Fundamental issues in generative phonology; emphasis on comparing alternative models of phonological description. Prereq: jr st; Linguis 460(P).

564 Advanced Syntax. 3 cr. U/G.
Continuation of Linguis 464, with greater emphasis on the evaluation and justification of competing solutions and competing models of grammar. Prereq: jr st & Linguis 464(P).

565 Introduction to Adult/University Level TESOL. 3 cr. U/G.
Overview of the various approaches to teaching English as a second language (ESL) to adult/university-level learners. Jointly-offered w/& counts as repeat of English 565. Does not satisfy requirements in School of Educ. Prereq: jr st; cons instr.

708 (701) Proseminar in Linguistics. 3 cr. G.
Presents a range of linguistic constructs, demonstrating through readings, problems, and exercises how these concepts can be used in the analysis of language. Linguis 708(701) & MAFLL 708 are jointly offered; they count as repeats of one another. Prereq: grad st.

799 Independent Reading and Research. 1-3 cr. G.
Open to graduate students in other departments to study a linguistics topic relating to an area of their specialization within their discipline. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

Courses - Russian

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

310 Advanced Russian Reading and Conversation: (Subtitled). 3 cr. U/G.
Development of advanced reading, speaking, and writing skills. Readings and films focus on Russian life and culture. Topic varies each semester. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Russian 202(P), 210(P), or cons instr.

311 Contemporary Russian Language: (Subtitled). 3 cr. U/G.
Development of practical communication skills. Focus varies each semester. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Russian 202(P), 210(P), or cons instr. Generates L&S cr for demonstrated equiv preparation (14 cr).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

511 Russian Phonetics. 2 cr. U/G.
Analysis of various systems of transcription of spoken Russian. Prereq: jr st & Russian 306(C).

515 The Structure of Russian. 2 cr. U/G.
Analysis of phonological, morphological, and syntactic aspects of modern Russian, with some historical perspective. Prereq: jr st & Russian 306(P).

Courses - Spanish

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

341 Introduction to Hispanic Linguistics. 3 cr. U/G.
Spanish linguistics, including phonetics, phonology, syntax, morphology, semantics, and sociolinguistics. Generates L&S credits for demonstrated equivalent preparation (14 retro cr). Prereq: jr st; Spanish 308(P).

347 Introduction to Translation: Spanish to English. 3 cr. U/G.
Basic skills necessary for professional translation. Translation of texts from Spanish into English. Summarizing texts; sight translation. Prereq: jr st; Spanish 308(P); grade of C or better in English 102(R) or score at level 4 on EPT recom.

348 (effective 01/26/2009) Introduction to Translation: English to Spanish. 3 cr. U/G.
Basic skills necessary for professional translation. Translation of texts from English into Spanish. Summarizing texts; sight translation. Spanish 348 & Trnsltn 348 are jointly offered; they count as repeats of one another. Prereq: jr st; Spanish 308(P); grade of C or better in English 102(R) or score at level 4 on EPT recom.

348 Introduction to Translation: English to Spanish. 3 cr. U/G.
Basic skills necessary for professional translation. Translation of texts from English into Spanish. Summarizing texts; sight translation. Prereq: jr st; Spanish 308(P); grade of C or better in English 102(R) or score at level 4 on EPT recom.

349 Introduction to Interpreting. 3 cr. U/G.
Spanish-English interpreting in legal, medical, social service, and education contexts. Consecutive interpreting with some attention to simultaneous interpreting. Spanish 349 & Trnsltn 349 are jointly offered; they count as repeats of one another. Prereq: jr st; Spanish 318(P) or 319(P) or cons instr.

377 Introduction to Galician Culture. 3 cr. U/G.
Main concepts and issues in understanding the unique culture of Galicia, in northwestern Spain, from a variety of perspectives. Prereq: jr st; Spanish 308(P); Spanish 318(P) or 319(P); cons instr.

411 The Enlightenment in Spain: 3 cr. U/G.
Topics on the poetry, the narrative, and the didactic prose and/or the drama of the 18th century. Retakable w/chg in topic to 6 cr max. Prereq: Spanish 350(P) & 351(P), or writ cons dept.

441 History and Dialects of the Spanish Language. 3 cr. U/G.
External and internal history of the language, including an introduction to the study of Spanish dialects. Prereq: jr st; Spanish 341(P).

443 (340) Spanish Phonetics and Phonology. 3 cr. U/G.
Theory of Spanish sounds; phonetic transcription; practice in pronunciation. Language lab may be required. Prereq: jr st; Spanish 341(P).

444 (344) Spanish Syntax and Morphology. 3 cr. U/G.
Comprehensive review of Spanish syntax and morphology; the meaning of words, sentences, and discourse. Prereq: jr st; Spanish 341(P).

446 Hispanic Sociolinguistics. 3 cr. U/G.
Critical analysis of the relationship between language and society in the Hispanic world. Prereq: jr st; Spanish 341(P).

447 Seminar in Advanced Translation: Spanish to English. 3 cr. U/G.
Comparative study of Spanish and English syntax; advanced translation (Spanish to English) of texts from the humanities, social and political sciences, technical writing, advertising. Satisfies L&S Seminar req. Prereq: jr st; Spanish 347(P) or writ cons dept; grade of C or better in English 102(R) or score at level 4 on EPT recom.

448 (effective 01/26/2009) Seminar in Advanced Translation: English to Spanish. 3 cr. U/G.
Comparative study of Spanish and English syntax; advanced translation (English to Spanish) of texts from the humanities, social and political sciences, technical writing, advertising. Spanish 448 & Trnsltn 448 are jointly offered; they count as repeats of one another. Prereq: jr st; Spanish 348(P) or writ cons dept; grade of C or better in English 102(R) or score at level 4 on EPT recom.

448 Seminar in Advanced Translation: English to Spanish. 3 cr. U/G.
Comparative study of Spanish and English syntax; advanced translation (English to Spanish) of texts from the humanities, social and political sciences, technical writing, advertising. Prereq: jr st; Spanish 348(P) or writ cons dept; grade of C or better in English 102(R) or score at level 4 on EPT recom.

449 Advanced Court Interpreting. 3 cr. U/G.
Theory and practice of court interpreting; vocabulary building; development of skills necessary for consecutive and simultaneous interpretation and sight translation. Listening skills, note-taking, memory techniques. Prereq: Spanish 349(P) or cons instr.

449 (effective 01/26/2009) Advanced Court Interpreting. 3 cr. U/G.
Theory and practice of court interpreting; vocabulary building; development of skills necessary for consecutive and simultaneous interpretation and sight translation. Listening skills, note-taking, memory techniques. Spanish 449 & Trnsltn 449 are jointly offered; they count as repeats of one another. Prereq: jr st; Spanish 349(P) or cons instr.

461 (365) Topics in Hispanic Culture: (Subtitled). 3 cr. U/G.
The culture of a group of Hispanic people from a particular social and/or historical perspective, with a focus on one or more manifestations of that culture. Retakable w/chg in topic to 9 cr max. Prereq: jr st & 6 crs of 400-level Spanish.

470 Survey of Hispanic Literature and Civilization. 3 cr. U/G.
Literature in Spain and Spanish America from the Middle Ages to 1880. Prereq: jr st; Spanish 350(P).

472 Survey of Spanish-American Literature and Civilization. 3 cr. U/G.
Literature in Spanish America from Modernism to the present. Prereq: jr st; Spanish 350(P).

474 Survey of Spanish Literature and Civilization. 3 cr. U/G.
Literature in Spain from Realism to the present. Prereq: jr st; Spanish 350(P).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, contact, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

506 Seminar on Spanish Literature: (Subtitled). 3 cr. U/G.
One or more areas of Spanish peninsular literature across periods, genres, or regions. Retakable w/chg in topic to 6 cr max. Prereq: jr st; Spanish 470(P) & 474(P).

507 Seminar on Spanish-American Literature: (Subtitled). 3 cr. U/G.
One or more areas of Spanish-American literature across periods, genres, or regions. Retakable w/chg in topic to 6 cr max. Prereq: jr st; Spanish 470(P) & 472(P), & 474(P).

508 Seminar on Hispanic Literature: (Subtitled). 3 cr. U/G.
A literary subject with manifestations in more than one Hispanic literature, including Latino literature, with focus on the differences between/among them. Retakable w/chg in topic to 6 cr max. Prereq: jr st; Spanish 470(P), 472(P), & 474(P).

545 (445) Seminar on Hispanic Linguistics: (Subtitled). 3 cr. U/G.
One or more branches of linguistics, such as dialectology, pragmatics, sociolinguistics, historical linguistics, etc., in relation to the Hispanic languages. Retakable w/chg in topic to 9 cr max. Prereq: 6 cr from Spanish 441(P), 443(P), 444(P), & 446(P).

570 (405) Seminar in Spanish Golden Age Literature: (Subtitled). 3 cr. U/G.
Topics on the poetry and/or the narrative and didactic prose of the late sixteenth and the seventeenth centuries. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 474(P).

571 (453) Seminar in Spanish-American Colonial Literature and Civilization: (Subtitled). 3 cr. U/G.
Poetry, narrative, didactic prose, and dramatic literature of Spanish America up to the eighteenth century. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 472(P).

572 (409) Seminar on Cervantes: (Subtitled). 3 cr. U/G.
'Don Quixote' and/or other works by Cervantes. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 474(P).

575 (455) Seminar on 18th & 19th Century Spanish-American Literature & Civilization: (Subtitled). 3 cr. U/G.
Topics on the poetry, fiction, drama and/or essay of the Spanish-American countries during the 18th and 19th centuries. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 472(P).

577 (457) Seminar on Modern Spanish-American Literature and Civilization: (Subtitled). 3 cr. U/G.
Topics on the poetry, fiction, essay, and/or drama of the Spanish American countries after 1888. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 472(P).

578 (417) Seminar on Modern Spanish Literature and Civilization: (Subtitled). 3 cr. U/G.
Topics on the poetry, fiction, and/or drama of twentieth- and twenty-first-century Spain. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 474(P).

580 (415) Seminar on Spanish Romanticism and Realism: (Subtitled). 3 cr. U/G.
Topics on the poetry, fiction, and/or drama of the nineteenth century in Spain. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P), 472(P) & 474(P).

700 (706) Practicum in Spanish Language Teaching Methods. 1 cr. G.
Practical application within Spanish of methods and concepts taught in MAFLL 700. Retakable to 2 cr max. Prereq: grad st; MAFLL 700(C) or cons instr.

701 Historical Grammar. 3 cr. G.
Evolution of grammatical structures from Latin to medieval Spanish and from medieval to modern Spanish. Prereq: grad st; Spanish 340(R) & 344(R).

701 (effective 01/26/2009) Historical Linguistics. 3 cr. G.
Evolution of the language from Latin to medieval Spanish and from medieval to modern Spanish, including contemporary varieties. Prereq: grad st; Spanish 341(R) or equiv.

703 Seminar on Language and Society: (Subtitled). 3 cr. G.
Analysis and discussion of advanced issues on the interaction between language and society in the Hispanic world and/or different areas of interest. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

705 Seminar in the Structure of the Spanish Language: 3 cr. G.
Selected problems in Spanish linguistics. Prereq: grad st.

707 Introduction to Translation: Spanish to English. 3 cr. G.
Basic skills necessary for professional translation. Translation of texts from Spanish into English. Summarzing texts; sight translation. Spanish 707 & Trnsltn 707 are jointly offered; they count as repeats of one another. Not open for cr to students w/grad cr in Spanish 347. Prereq: grad st; Spanish 308(P) or equiv.

717 Seminar in Advanced Translation: Spanish to English. 3 cr. G.
Comparative study of Spanish and English syntax; advanced translation (Spanish to English) of texts from the humanities, social and political sciences, technical writing, advertising. Spanish 717 & Trnsltn 717 are jointly offered; they count as repeats of one another. Not open for cr to students w/grad cr in Spanish 447. Prereq: grad st; Spanish 707(P) or grad cr in Spanish 347(P), or writ cons Trnsltn coord.

751 Seminar in Medieval Literature and Related Topics: 3 cr. G.
- Retakable w/chg in topic to 6 cr max. Prereq: grad st.

755 Seminar in Renaissance Literature and Related Topics: 3 cr. G.
- Retakable w/chg in topic to 6 cr max. Prereq: grad st.

757 (753) Seminar in One or More Areas of Siglo de Oro Literature and Related Topics: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

763 Seminar-Romantic Literature in Spain &/or Spanish America & Related Topics: 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

767 Sem on Realistic Literature in Spain &/or Spanish America & Related Topics: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

768 Naturalism and Its Influences. 3 cr. G.
A study of Naturalism and its influences in Spain during the 19th, 20th, and 21st centuries. Prereq: grad st.

769 (765) Seminar in 20th Century Literature of Spain and/or Spanish America & Related Topics: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

770 The Modern Spanish Novel. 3 cr. G.
A study of the novel in Spain since the death of Franco in 1975. Prereq: grad st.

771 Seminar in Early Spanish American Literature and Related Topics: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 6 cr max. Prereq: grad st.

781 Seminar in Hispanic Literature: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 6 cr max. Prereq: grad st.

782 Modern Spanish Women Writers. 3 cr. G.
A study of women writers of Spain during the 20th and 21st centuries. Prereq: grad st.

783 Seminar in Latino Literature and Related Topics: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 6 cr max. Prereq: grad st.

785 Detective Fiction of Spain. 3 cr. G.
A study of the detective genre in the literature of Spain. Prereq: grad st.

791 Spanish Culture and Related Topics: (Subtitled). 3 cr. G.
An in-depth examination of the culture of Spain with special attention paid to the history of the country and to the formation of a Spanish identity. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

793 Spanish American Culture and Related Topics: 3 cr. G.
In-depth examination of the development of a Latin American culture with a focus on key aspects of that culture after independence. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

795 Hispanic Culture: (Subtitled). 3 cr. G.
The culture of the Hispanic people from a variety of perspectives with a focus on one or more manifestations of it. Topic to be announced. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

799 Independent Work. 1-3 cr. G.
Supervised study with a member of the graduate faculty. Retakable w/chg in topic to 6 cr max. Prereq: grad st; cons instr.

799 (effective 01/26/2009) Independent Study. 1-3 cr. G.
Individual program of supervised study in the student's area of emphasis or interest, different from content of course offerings, supervised by a graduate faculty. Topics selected in agreement with and the approval of supervising professor. Retakable w/chg in topic to 3 cr max. Prereq: grad st; 3.0 gpa in Spanish grad courses, writ cons instr & dept chair.

Courses - Translation

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

348 (effective 01/26/2009) Introduction to Translation: English to Spanish. 3 cr. U/G.
Basic skills necessary for professional translation. Translation of texts from English into Spanish. Summarizing texts; sight translation. Spanish 348 & Trnsltn 348 are jointly offered; they count as repeats of one another. Prereq: jr st; Spanish 308(P); grade of C or better in English 102(R) or score at level 4 on EPT recom.

349 Introduction to Interpreting. 3 cr. U/G.
Spanish-English interpreting in legal, medical, social service, and education contexts. Consecutive interpreting with some attention to simultaneious interpreting. Spanish 349 & Trnsltn 349 are jointly offered; they count as repeats of one another. Prereq: jr st; Spanish 318(P) or 319(P) or cons instr.

415 Introduction to Translation: French to English. 3 cr. U/G.
Introduction to basic skills necessary to professional translation. Translation of texts form French into English. Summarizing texts. Sight translation. French 415(425) & Trnsltn 415 are jointly offered; they count as repeats of one another. Prereq: jr st; grade of B of better in French 325(P); French 324(327)(P) or (332)(P).

425 Introduction to German Translation. 3 cr. U/G.
Introduction to basic skills necessary to professional translation. Translation of texts from German into English and from English into German. Summarizing texts. Sight translation. German 425 & Trnsltn 425 are jointly offered; they count as repeats of one another. Prereq: jr st; German 332(426), 333(P), & 334(P).

448 (effective 01/26/2009) Seminar in Advanced Translation: English to Spanish. 3 cr. U/G.
Comparative study of Spanish and English syntax; advanced translation (English to Spanish) of texts from the humanities, social and political sciences, technical writing, advertising. Spanish 448 & Trnsltn 448 are jointly offered; they count as repeats of one another. Prereq: jr st; Spanish 348(P) or writ cons dept; grade of C or better in English 102(R) or score at level 4 on EPT recom.

449 (effective 01/26/2009) Advanced Court Interpreting. 3 cr. U/G.
Theory and practice of court interpreting; vocabulary building; development of skills necessary for consecutive and simultaneous interpretation and sight translation. Listening skills, note-taking, memory techniques. Spanish 449 & Trnsltn 449 are jointly offered; they count as repeats of one another. Prereq: jr st; Spanish 349(P) or cons instr.

465 Introduction to Translation: English to French. 3 cr. U/G.
Translation of texts from English into French. Comparative study of French and English syntax and comparative culture. French 465 & Trnsltn 465 are jointly offered; they count as repeats of one another. Counts as repeat of French 499 with "Intro to English to French Translation" topic. Prereq: jr st; grade of B or better in French 325(P); French 427(P) or cons instr.

515 Seminar in Advanced Translation: French to English. 3 cr. U/G.
Translation from French into English; advanced grammar; techniques of documentation. French 515(526) & Trnsltn 515 are jointly offered; they count as repeats of one another. Prereq: jr st; French 415(425)(P) or cons instr.

525 Seminar in Advanced German Translation. 3 cr. U/G.
Refinement of translation skills; concentration on specific types of texts. German 525 & Trnsltn 525 are jointly offered; they count as repeats of one another. Prereq: jr st: German/Trnsltn 425(P).

530 (FLL 525) Business and Professional Aspects of Translation. 3 cr. U/G.
Practical knowledge needed to succeed as free-lance or in-house translators; marketing, advertising, negotiating as well as legal and tax issues. Prereq: jr st; French 415(425)(P), or German 425(P), or Spanish 347(P) or 707(P), or Trnsltn 415(P), 425(P), or 707(P).

707 Introduction to Translation: Spanish to English. 3 cr. G.
Basic skills necessary for professional translation. Translation of texts from Spanish into English. Summarzing texts; sight translation. Spanish 707 & Trnsltn 707 are jointly offered; they count as repeats of one another. Not open for cr to students w/grad cr in Spanish 347. Prereq: grad st; Spanish 308(P) or equiv.

709 Seminar in Literary and Cultural Translation. 3 cr. G.
Study and practice of literary translation in its cultural setting. Discussion of essays, analysis of published translations, translation practice, and collegial discussion of students' work. MAFLL 709 & Trnsltn 709 are jointly offered; they count as repeats of one another. Prereq: grad st.

710 Comparative Systems for Translation. 3 cr. G.

Comparative systems in society; how those systems relate to field of translation; how to make informed translation choices based on subtle differences in systems. MAFLL 710 & Trnsltn 710 are jointly offered; they count as repeats of one another. Prereq: grad st.

717 Seminar in Advanced Translation: Spanish to English. 3 cr. G.

Comparative study of Spanish and English syntax; advanced translation (Spanish to English) of texts from the humanities, social and political sciences, technical writing, advertising. Spanish 717 & Trnsltn 717 are jointly offered; they count as repeats of one another. Not open for cr to students w/grad cr in Spanish 447. Prereq: grad st; Spanish 707(P) or grad cr in Spanish 347(P), or writ cons Trnsltn coord.

720 Topics in Translation: (Subtitled). 3 cr. G.

Advanced and specialized translation skills courses targeting the translation industry. Retakable w/chg in topic to 9 cr max. Prereq: grad st; French 515(526)(C), German 525(C), or Spanish 447(C) or 717(C); or cons Trnsltn coord.

720 (effective 01/26/2009) Topics in Translation: (Subtitled). 1-3 cr. G.

Advanced and specialized translation skills courses targeting the translation industry. Retakable w/chg in topic to 9 cr max. Prereq: grad st; add'l prereqs depending on topic

726 (MAFLL 726) Computer-Assisted Translation. 3 cr. G.

How computer technology can be combined with human skills for language translation through the automation of data storage, file analysis, data application and retrieval. Prereq: grad st; French 526(C), German 525(C), or Spanish 447(C).

730 (MAFLL 730) Internship in Translation. 3 cr. G.

Internship offering on-the-job experience to students in the graduate certificate program in translation. Retakable to 6 cr max. Prereq: Trnsltn (MAFLL) 726(P); French 515(526)(P), German 525(P), Spanish447(P), or Spanish 448(P).

820 Translation Theory. 3 cr. G.

The role of translation in development of languages, cultures, and societies; cultural and ideological forces shaping translations; contemporary theories of translation. CompLit 820 & Trnsltn 820 are jointly offered; they count as repeats of one another. Prereq: grad st.

GEOGRAPHY

- Phone: (414) 229-4866
- Fax: (414) 229-3981
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School/College: College of Letters and Science

Degrees Conferred:

- MA in Geography
- MS in Geography
- PhD in Geography

Overview

The Department of Geography offers master's programs of study across a range of systematic, regional, and technical fields, and an innovative Ph.D. program focused on the urban environment. The department's strengths lie in three areas of expertise that are incorporated into the programs at both master's and Ph.D. levels. The areas are:

- **Urban Development:** This area primarily emphasizes the role of economic systems as well as cultural and social forces that shape the landscape and dynamics of urban areas. Courses examine such issues as urban growth and change, race and ethnicity in the city, cultural and physical aspects of urban planning process, and the geography of urban political decision-making.
- **Physical Geography and Environmental Studies:** This area addresses the interactions among natural forms and processes on the earth's surface and human connections with those natural phenomena. Course work in this general area discusses the distribution and analysis of earth surface landforms and processes (geomorphology), soils (pedology), plants and animals (biogeography) and long-term atmospheric patterns (climatology). Emphasis is placed on the relationship between the physical environment and people, incorporating studies of, for example, natural hazards, conservation, and environmental change, and paying particular attention to the manifestations of these relationships and processes in the urban environment.
- **International Interests:** Department faculty members have varied international interests and experience, for example, in Africa, Canada, the Caribbean, China, Latin America, South Asia, and Western Europe.

In addition to these departmental strengths, individual faculty members apply their expertise in topics such as remote sensing, GIS, and cartography to problems of the city. Geography faculty also participate in the certificate program in Geographic Information Systems, which is jointly offered by the College of Letters and Science and the School of Architecture and Urban Planning.

While the master's program offers a more traditional structure within which students can strengthen their knowledge of the discipline and one or more of its subfields, the department's unique Ph.D. program is designed to be especially attractive to forward-looking students interested in the urban environment who seek a flexible, versatile, 21st century graduate education with a strong emphasis on interdisciplinarity. The Ph.D. program's urban-environmental theme is inclusive and encompassing of processes and problems associated with the intersection of human and natural environments, strongly focused on "the city" as the entity of engagement. The program breaks with longstanding tradition in the field of geography in stressing a balance between specialized analytical research and synthetic research, between traditional academic research and community engagement, and between research and teaching. It relies heavily on Geographic Information Science (GIS) as a research tool and as an organizing framework.

Facilities and Resources

The University of Wisconsin - Milwaukee is the repository of the venerable American Geographical Society Library, an internationally renowned research resource. The Department of Geography boasts a large instructional Map Collection, which functions as a federal government depository for maps; and a Soils and Physical Geography Laboratory, which supports research projects among several UWM departments.

Microcomputer facilities used by the Geography Department for instruction include two PC/Windows workstation labs. Software installed in these labs includes geographic information systems, remote sensing, mapping, illustration, photo editing, desktop publishing, statistical, database management, and word processing packages. Several university DEC Alphas, other microcomputer laboratories, and multimedia facilities also are available for graduate student research.

Other research resources at UWM available to the Geography Department staff and students include the Cartography and GIS Center, the Great Lakes WATER Institute, the Center for Urban Initiatives and Research, the Center for Latin America, the Center for International Education, the Center for Urban Transportation Studies, the Center for Women's Studies, the Institute for Survey and Policy Research, and University Information Technology Services (formerly Information and Media Technologies).

Graduate Faculty

Professors

Day, Michael J., Ph.D., Oxford University, England

Schwartz, Mark D., Ph.D., University of Kansas

Associate Professors

DeSousa, Christopher A., Ph.D. University of Toronto, Canada

Fredlund, Glen, Ph.D., University of Kansas

Ghose, Rina, Ph.D., University of Wisconsin-Milwaukee

Kenny, Judith, Ph.D., Syracuse University, Chair

McCarthy, Linda, Ph.D., University of Minnesota

Wu, Changshan, Ph.D., Ohio State University

Assistant Professors

Holifield, Ryan, Ph.D., University of Minnesota

Mansson McGinty, Anna, Ph.D., Lund University, Sweden

Sziarto, Kristin, Ph.D., University of Minnesota

Master of Arts/Master of Science in Geography

The MA normally is awarded to those who concentrate in cultural or human geography, whereas the MS is awarded to those who concentrate in physical geography. Students must elect to pursue either the MA or MS option during their first semester in the program. A minimum of 6 credits in physical geography or natural science courses appropriate to the student's area of study are required for the MS. Students may also elect to complete their degree through either a thesis or non-thesis track.

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

- Evidence of general intellectual ability and compelling interest in geography. An undergraduate major in geography is desirable as evidence of such ability and interest but is not required. Past coursework will be compared to the core requirements of the UWM Geography bachelor's degree in order to determine any deficiencies that need to be satisfied as a condition of acceptance.
- Submission to the Geography department of three letters of recommendation supporting application.
- Submission of recent GRE scores.
- Departmental approval, based on thorough evaluation of applicant's potential for professional development.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The Chair of the Graduate Student Administrative Committee is a temporary advisor; within the first semester the student selects an advisor in the student's specialization.

Credits and Courses

Minimum degree requirement is 24 graduate credits with an average GPA of 3.0. The student, in consultation with the advisor, plans a program of studies to include 4 credits in Geography 525 (Geographic Information Science); 3 credits in Geography 547 (Spatial Analysis); 3 credits in Geography 810 (Introduction to Techniques of Research and Presentation); 3 credits in Geography 870 (Contemporary Geographic Approaches); and 9 credits in graduate level (700 and above) courses approved by the student's advisor (at least 3 of these credits must be in one Geography 900-level course). The student also must attend Geography colloquia regularly while in residence and must present her/his thesis research at a departmental colloquium.

Thesis Track

The student, through the advisor, must present a proposed thesis topic and Advisory Committee to the Graduate Faculty of the Department for its approval. For students electing the MS option, the Faculty will also judge the appropriateness of the thesis topic for that degree. The student must then write a thesis acceptable to the major professor for presentation to the Advisory Committee (two faculty in addition to the advisor). The defense date for the thesis must be set at least two weeks prior to the Graduate School deadline for completion of all work. The thesis must be approved by the advisor and delivered to the committee at least six weeks prior to the defense date. Students must submit the thesis to the advisor in sufficient time to meet the committee deadline. Exceptions to these deadlines under unusual circumstances must be approved unanimously by the student's committee.

In addition to submission of the final thesis to the Graduate School (according to its required procedure), the candidate must present the Geography Department with a professionally hard-bound copy that meets Graduate School specifications for quality. This copy will remain on file in the department.

Non-Thesis Track

This track is intended for students who are not interested in continuing their graduate education beyond the Master's, and plan to seek professional employment. The MA degree will normally be awarded upon completion of this track. Those who wish a MS degree must formally petition the Graduate Faculty in writing, providing a rationale as to why that degree is appropriate to their program. The student must complete 3 credits of graduate work (approved by the student's advisor) as either:

1. Two (15 page/3750 word minimum) research papers (Geog 999)
2. OR
3. a graduate internship (Geog 698 or Geog 889)

Comprehensive Examination

In combination with the thesis defense (or after completion of the work for the non-thesis track), the student must pass a final oral examination over the field of geography, administered by the student's Advisory Committee. Scheduling this examination during the summer is not permitted except under unusual academic circumstances and with the approval of the department faculty.

Time Limit

This program is designed to be completed in two years of full-time attendance. The Graduate School requires that all degree requirements be completed within five years of initial enrollment.

Geography MA/MLIS Coordinated Degree Program

In cooperation with the School of Information Studies, the Department of Geography offers an MA/MLIS coordinated program to prepare students for positions as map librarians. Students in the program will pursue concurrently a Master of Arts in Geography degree program and a Master of Library and Information Science degree program, with an emphasis on Map Librarianship. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree.

The MA in Geography normally has a minimum requirement of 24 credits in geography. For the coordinated MA Geography/MLIS degree program, however, students can substitute 6 credits in L&I Sci courses for 6 credits of geography. This program, therefore, requires a total of 48 credits. Students must complete the 30 credits required for the MLIS degree and the 18 credits in Geography courses specified below.

- Geog 525 Geographic Information Science, 4 cr
- Geog 547 Spatial Analysis, 3 cr
- Geog 810 Introduction to Techniques of Research and Presentation, 3 cr
- Geog 870 Contemporary Geographic Approaches: (Subtitle), 3 cr
- Geog 900-level course, 3 cr
- Geog Any graduate course, 2 cr

Students are encouraged to take L&I Sci 683 Cartographic Resources in Libraries (3 cr) as one of the two L&I Sci courses that substitute for 6 credits of geography.

The Geography Department offers opportunities for fieldwork that may count toward these requirements. In addition to off-campus fieldwork, the American Geographical Society Collection at the UWM Golda Meir Library provides many unique opportunities for map librarianship fieldwork and is an appropriate site for an internship.

Graduates of the program are qualified to assume positions as curators and staff members in map collections of universities, governmental agencies, and industry. In cases where map collections are not of sufficient size to warrant separation as distinct collections, knowledge of how to store, classify, and retrieve maps will be a valuable set of skills that enhance the qualifications of the information professional.

MLIS Program Advisor
Dr. Alexandra Dimitroff
Office: Bolton Hall 528
Phone: 229-6839
Geography Program Advisor
Dr. Rina Ghose
Office: Bolton Hall 450
Phone: 229-4797

For more information on this program, see the Library and Information Science section of this Bulletin.

Doctor of Philosophy in Geography

Admission

An applicant must meet Graduate School requirements to be considered for admission to the program. Students from a wide range of disciplinary backgrounds may be admitted. They must present the following credentials:

1. Master's degree.
2. Statement of interest in the program.
3. Substantial evidence of scholarly potential and commitment.
4. Three letters of recommendation, submitted to the Geography Department.
5. Recent (within five years) GRE scores.

In some instances where the applicant's record demonstrates exceptional promise, the Department will consider applications for admission to the Ph.D. program directly from a BA/BS degree. Such admission does not constitute a waiver of any of the requirements indicated below.

The Graduate Program Committee, during the admission process, will evaluate an applicant's academic background and will assign deficiencies based on a comparison of his/her background and the proposed specific area of study as outlined in the student's statement of interest. In general, the department seeks students with:

1. Potential for planning and successfully completing an independent scientific research project, as evidenced by a master's thesis and/or other appropriate materials;
2. Basic statistical analysis skills;
3. Interest and/or ability in evaluating problems related to the urban environment with a spatial framework; and
4. Interest in examining research questions within a multi-disciplinary (human/physical) team environment.

Reapplication

A student who receives the master's degree from UWM must formally reapply for admission to the Graduate School before continuing studies toward the Ph.D.

Major Advisor and Committee

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations; the student may not register for any courses without that advisor's prior approval. The Chair of the Graduate Student Administrative Committee is a temporary advisor; within the first semester the student selects an advisor within the area of specialization. Each student, preferably after completion of the first year of study, also will select four additional members of the faculty/qualified professions to form his/her advisory committee. A majority of the committee members must be core geography faculty members. Affiliated faculty members from other departments may serve as major advisors.

Graduate Student Orientation

All new students are expected to participate in the department orientation program, offered during the week prior to the start of fall classes. If a student enters the program in the spring, s/he must participate in this program during the subsequent fall semester. New students will be paired with an experienced student mentor during their first year. Instructional opportunities sponsored by the Center for Instruction and Professional Development (CIPD) and the Preparing Future Faculty (PFF) initiative will be offered to all teaching assistants and other interested students enrolled in the doctoral program.

Course of Study

Minimum degree requirement is 54 graduate credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM with a minimum GPA of 3.0.

Under the guidance of the advisory committee, the chair of which serves as the student's major professor, the student plans a program of study leading to the development of a special interest. All programs of study contain the following four elements: core concepts and methods, thematic focus, elective courses (as needed to meet the total credit requirement), and dissertation.

Core Concepts And Methods (four courses)

All students must take the following foundation courses:

- Geog 525 Geographic Information Systems
- Geog 870 Contemporary Geographic Approaches
- Geog/UrbPlan 880 Challenges to Urban Sustainability

One of the following three courses:

- Geog 403 Remote Sensing: Environmental and Land Use Analysis
- Geog 547 Spatial Analysis
- Geog 727 Qualitative Research

Thematic Focus (at least three courses)

Students, with their advisor's approval, must select from the following lists a minimum of three courses that together confer specialized expert knowledge in one aspect of urban environments. The courses selected do not have to come from a single list.

Local Places: Problems and Issues (relevant courses include):

- Geog 441 Geography of Cities and Metropolitan Areas
- Geog 455 Applied Climatology
- Geog 464 Environmental Problems
- Geog 564 Urban Environmental Change and Social Justice
- Geog 734 GIS and Society
- Geog 945 The Internal Structure of the City
- Geo Sci 465 Advanced Environmental Geology
- Urb Std 981 Perspectives Toward Change in Urban Social Institutions
- UrbPlan 720 Urban Development Theory and Planning

Global and Regional Perspectives (relevant courses include):

- Geog 430 Geography of Transportation
- Geog 440 City Systems and Metropolitan Development
- Geog 443 Cities of the World: Comparative Urban Geography
- Geog 540 Globalization and the City
- Geog 742 Urban and Regional Dimensions of Global Economic Change
- Geog 744 Cities, Regions, and Globalization
- Geo Sci 470 Engineering Geology
- Urb Std 701 Comparative Urban Development
- UrbPlan 780 Seminar in Environmental Planning Issues

Monitoring and Modeling Urban Dynamics (relevant courses include):

- Geog 403 Remote Sensing:Environmental and Land Use Analyses (if not taken in core)
- Geog 411 Physical Climatology
- Geog 420 Methods and Principles in Land Form Geography
- Geog 520 Physical Geography of the City
- Geog 547 Spatial Analysis (if not taken in core)
- Geog 625 Intermediate Geographic Information Science
- Geog 650 Geography Field Work
- Geog 703 Advanced Remote Sensing
- Geog 725 Advanced Geographic Information Science: Geographic Modeling
- Geog 727 Qualitative Research (if not taken in core)
- Geog 750 Remote Sensing and Urban Analysis
- Geo Sci 730 Modeling Techniques for Hydrogeology
- Urb Std 725 Methods of Urban Community Development
- UrbPlan 721 Applied Planning Methods

Research Techniques (one course)

Students must complete Geog 910, Techniques of Research and Presentation, an introduction to theoretical and practical aspects of geographic research, funding, presentation, and publication. Ideally, student should enroll in this course after their first full year of courses, but no later than their fourth semester, after they have completed the majority of CORE requirements. The course is designed to assist students with the initiation of their Ph.D. dissertation research.

Foreign Language Requirement

If appropriate to the proposed area of study, the student's committee will require that s/he acquire the necessary competence in a foreign language. The major professor will supervise the completion of this requirement with input from the committee as necessary.

Elective Courses

Courses taken from geography or cognate fields to achieve the total of 54 credits required for the Ph.D. degree. Students must have the

approval of their advisors for the elective courses.

Dissertation

The candidate must write an acceptable dissertation that demonstrates formulation, design, and independent execution of a significant research project. The dissertation must make an original contribution to knowledge in the field of geography. It may focus on geographical theory, methodology, data, or analysis, or it may involve collaborative approaches, interdisciplinary syntheses, and integrative solutions appropriate to the focus of the student's graduate program of study.

Portfolio Evaluation

By the end of the first full academic year in the program, each student will undergo a formal portfolio evaluation by the members of the faculty in order to determine the student's readiness to continue in the program. This evaluation will include inspection of all written work produced in courses, commentary by relevant instructors, and any other materials the student chooses to submit. The possible outcomes of this review will be:

1. PASS (student continues with the normal second year of their program);
2. FAIL (student is recommended for academic dismissal); or
3. PROBATION (student is counseled to take specific courses or other actions to achieve the necessary readiness to continue in the program). In the case of a recommendation of Probation, the student will be re-evaluated after an additional semester. If this second review does not result in a decision to PASS, the student will be recommended for academic dismissal.

Residence

The student must meet minimum Graduate School residence requirements of one continuous academic year of full-time graduate studies at UWM. This can be satisfied by completing 8 to 12 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions. Residence credit cannot be earned at the master's level or before the master's degree is awarded.

Doctoral Preliminary Examination

Each student will undergo a comprehensive written and oral examination by the end of his/her sixth semester in the program. The student's committee, advisor, and proposed dissertation topic must be approved formally by the Geography departmental faculty prior to the scheduling of these exams. A Proposed PhD Program/Plan of Study must be filed with the major professor prior to the preliminary examination. Successful completion of these exams leads to candidacy, when work on the dissertation can commence.

The student's advisor, as chair of the advisory committee, will organize and administer the examination. The content of the examination will be determined by the area of the student's interest. The scope of the examination will be determined by the student's advisory committee. A student judged qualified by the majority of the five-member advisory committee will be admitted to candidacy. A student judged not qualified by the majority of the advisory committee will not be admitted to candidacy at the time of the examination but will be given an opportunity to retake the examination once, after a waiting period of at least one semester. At the discretion of the advisory committee, the second examination will be either a complete reexamination or a partial examination over the parts in which the student failed to qualify. A student receiving a negative vote of the advisory committee after the second examination will be recommended for academic dismissal. The student will be informed of the reasons for failure to qualify.

Presentations

Each student must make two presentations at department colloquia. The first presentation will be scheduled early in the student's program; it is designed to give the student experience in making formal presentations. The second presentation will communicate the student's dissertation research topic and preliminary results.

Dissertation

As mentioned above, the candidate must write an acceptable dissertation. The defense date for the dissertation must be set at least two weeks prior to the Graduate School deadline. The dissertation must be approved by the major professor and delivered to the student's advisory committee at least six weeks prior to the defense date. A student must submit the dissertation to the advisor in sufficient time to meet the committee's deadline. Exceptions to these deadlines under unusual circumstances must be approved unanimously by the student's committee.

Dissertation Defense

The candidate must, as the final step toward the degree, defend the dissertation before the advisory committee. If the candidate passes the defense, the advisory committee will recommend to the Graduate School that a degree of Doctor of Philosophy be conferred.

Submission of Completed Dissertation

In addition to submission of the final dissertation to the Graduate School (according to its required procedure), the candidate must present to the Geography Department a professionally hard-bound copy that meets Graduate School specifications for quality. This copy will remain on file in the department.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

For additional information see the Graduate School Ph.D. requirements.

Special Issues for Directly Admitted Students

Students directly admitted to the doctoral program after completion of their bachelor's degree will not earn a master's degree during the course of their studies. Further, formal doctoral status (which affects stipend rates and the ability to fulfill the residency requirement) will not be granted until the student has completed 24 credits in the program. Lastly, no more than 12 dissertation credits can be used to satisfy the 54-credit doctoral degree requirement.

Certificate in Geographic Information Systems (GIS)

The Certificate in Geographic Information Systems is designed for those individuals seeking careers as GIS specialists, providing geographic data management, spatial analysis, and GIS system management support to professionals in a broad range of disciplines, such as criminal justice, health services, city and regional planning, civil and environmental engineering, transportation, and marketing. Certificate holders will seek employment in positions such as "GIS Specialist," "GIS Analyst," or "GIS Coordinator."

The School of Architecture and Urban Planning, and the College of Letters and Science jointly offer the certificate. The core courses (12 credits) focus on the structure of geographic data, components for managing geographic information systems, spatial analysis, and delivery of geographic information through maps and displays. Students select the remaining 6 credits for the certificate from electives, which may include an internship, in areas such as remote sensing, map-making, and data management systems.

Upon completion of the certificate courses, a student is awarded the certificate which qualifies for 5 credential points in the GIS Certification Institute's standards for professional certification in GIS.

Application and Admission

Students interested in the GIS Certificate should contact the Department of Urban Planning or the Department of Geography. Those who are not already admitted to a UWM graduate degree program must complete a UW System online admission application and have an official undergraduate transcript sent to the Graduate School. Applicants must have a bachelor's degree with an undergraduate GPA of 2.75 or a graduate degree to be accepted into the certificate program.

For international applicants, whose first language is not English, a score on the Test of English as a Foreign Language (TOEFL) of at least 600 (250 on the computer-based version) or an International English Language Testing System (IELTS) score of 7.0 must also be submitted.

Credits and Courses

A minimum of 6 credits each in Urban Planning and Geography courses are required for completion of the certificate.

Required Courses (12 cr)

Tier 1 (select one course)
- URBPLAN 791, Introduction to Urban Geographic Information Systems for Planning
- GEOG 525, Geographic Information Science

Tier 2 (select one course)
- URBPLAN 792, Using Urban Geographic Information Systems (GIS) for Planning
- GEOG 625, Intermediate Geographic Information Science

Tier 3 (select two courses)
- URBPLAN 793, Applied Projects in Urban Geographic Information Systems
- URBPLAN 794, Internet Geographic Information Systems
- GEOG 725, Advanced Geographic Information Science: Geographic Modeling
- GEOG 734, GIS and Society

Elective Courses (6 cr)

Electives
- URBPLAN 771, Transportation Policy and Planning
- URBPLAN 991, Legislative/Administrative Agency Internship
- URBPLAN 999, Independent Study
- BUSADM 749, Data Management Systems
- GEOG 403, Remote Sensing: Environmental and Land Use Analysis
- GEOG 405, Cartography
- GEOG 547, Spatial Analysis
- GEOG 698, GIS/Cartography Internship
- GEOG 703, Advanced Remote Sensing
- GEOG 750, Remote Sensing and Urban Analysis
- GEOG 960, Seminar: Geographic Techniques
- Other courses as approved by the GIS Certificate Subcommittee

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

400 (300) Geography of Population. 3 cr. U/G.
Spatial analysis of demographic variations, with emphasis on the economic and social characteristics of the population and population mobility; principal focus on the United States. Prereq: jr st & Geog 110 or 115.

401 Introduction to the History of European Cartography Before 1500 A.D. 3 cr. U/G.
Mapping in Europe from pre-historic times to the late Middle Ages. Maps in pre-historic rock art, the ancient world and the Middle Ages. Prereq: jr st; Geog 225; Hist 101 or 204. Not available for grad cr.

403 Remote Sensing: Environmental and Land Use Analysis. 4 cr. U/G.
Use of aerial photographs and digital imagery in environmental and land use analysis, including urban areas. 3 hrs lec; 2 hrs lab PC/Windows familiarity recom. Prereq: jr st & Geog 215(P); or grad st.

405 Cartography. 4 cr. U/G.
Thematic cartography; map communication, design principles, illustration and mapping software. 3 hrs lec, 2 hrs lab. Prereq: jr st & Geog 215(P); or grad st.

410 Gendered Geographies. 3 cr. U/G.
Various ways feminist geographers have analyzed gender in relation to phenomena such as the body, home, work, the nation, colonization, and globalization. Prereq: jr st & one of Geog 105(P) or 110(P) or Wmns 200(P) or 201(P) or equiv; or grad st.

411 Physical Climatology. 3 cr. U/G.
Analyzing climatic processes at the microclimate scale. Budgets of radiation, energy, water, and momentum at the earth's surface, sensible-latent heat, and soil-plant-atmosphere interactions. Prereq: jr st, Geog 120(P) or Atm Sci 100(P) or 240(P), & Geog 310(R); or grad st.

420 Methods and Principles in Land Form Geography. 3 cr. U/G.
Geographic qualitative and quantitative methods in land form analysis and principles of landscape evolution. Prereq: jr st & Geog 120(P) or 121(P) or Geo Sci 101(P).

421 Geography of Latin America. 3 cr. U/G.
Topical and regional analysis of physical features, discovery and exploration, processes of settlement, evolution of the landscape, and problems of development through modern times. Prereq: jr st & Geog 110(P) or 120(P) or 125(P); or grad st.

422 Geography of South America. 3 cr. U/G.
Topical and regional analysis of physical features, discovery and exploration, processes of settlement, evolution of the landscape and problems of development through modern times. Prereq: jr st & Geog 110(P), 120(P), or 205(P) or equiv.

424 Karst Geomorphology. 3 cr. U/G.
Description and analysis of karst (limestone) processes and landforms. Prereq: jr st; Geog 004(P), 120(P) or cons instr.

425 Land Form Geography of the United States. 3 cr. U/G.
Regional analysis of the present land surface form and its origin. Not open to students with cr in either Geog 426(ER) or 427(ER). Prereq: jr st & Geog 120(P) or 121(P) or Geo Sci 101(P).

426 Regional Geomorphology of Eastern North America. 3 cr. U/G.
Regional analysis of the land form of North America east of the Rocky Mountains. 2 hrs lec, 1 hr lab. Not open to students with cr in Geog 425. Prereq: jr st; Geog 120(P) or 121(P) or Geo Sci 100(P) or 101(P).

427 Regional Geomorphology of Western North America. 3 cr. U/G.
Regional analysis of the land form of North America west of the Great Plains. 2 hrs lec, 1 hr lab. Not open to students with cr in Geog 425. Prereq: jr st & Geog 120(P) or 121(P) or Geo Sci 100(P) or 101(P).

430 (330) Geography of Transportation. 3 cr. U/G.
Geographic analysis of transportation, with emphasis on commodity flows and traffic patterns. Prereq: jr st; Geog 115(P).

431 Geography of Air Transportation. 3 cr. U/G.
Elementary technical aspects of private and commercial aviation, spatial organization of airline industry, airport planning and development. Prereq: jr st; cons instr. Not available for grad cr.

440 City Systems and Metropolitan Development. 3 cr. U/G.
External relations of systems of cities and metropolitan areas with special reference to North America; economic, social, political and physical relations among cities and hinterlands. Prereq: jr st & intro course in geog or acceptable course in an urban related field, e.g. Econ, UrbPlan, Urb Std; or grad st.

441 Geography of Cities and Metropolitan Areas. 3 cr. U/G.
Extent, localization, and geographic relations of land uses, facilities, and internal circulation, with particular reference to large North American cities. Prereq: jr st & intro course in geog or acceptable course in an urban related field, e.g. Econ, UrbPlan, Urb Std; or grad st.

443 Cities of the World: Comparative Urban Geography. 3 cr. U/G.
Geographic analysis of world urban systems with emphasis on the cultural traditions, form, function and socio-economic development of cities. Prereq: jr st & Geog 110(P), 115(P), or 140(P).

450 Climates of the Past and Climate Change. 3 cr. U/G.
Climatic history of the earth and climate models. Milankovitch theory, quaternary climates, temporal-spatial scales of change, general circulation, and earth system models. Prereq: jr st, Geog 120(P) or Atm Sci 100(P) or 240(P), & Geog 310(R); or grad st.

455 Applied Climatology. 3 cr. U/G.
Applications of climate processes and data. Solar energy, wind energy, food production, water usage, building design, urban environments, ecological assessment, and land form development. Prereq: jr st, Geog 120(P) or Atm Sci 100(P) or 240(P), & Geog 310(R); or grad st.

460 Historical Geography of the United States. 3 cr. U/G.
Historical development of cultural landscapes, with emphasis on land use and environmental change resulting from introduced and domestic innovations. Prereq: jr st & one of the following: Geog 105(P), 110(P), 201(P), 211(P), or 306(P); Hist 151(P), 152(P), 251(P), or 252(P).

462 Cultural Geography of Latin America. 3 cr. U/G.
Development of cultural landscapes, with emphasis on land use and environmental change resulting from European introductions; historical explanation of modern landscapes and environmental problems. Prereq: jr st; one of Geog 105(P), 110(P), 421(P), 422(P), Hist 180(P), 388(P), 389(P), or 390(P).

463 Geography of Religions. 3 cr. U/G.
Geographic aspects of religions: the areas of origin and dispersal of religions, religious culture regions, religious ecology, pilgrimages, and religious landscape. Prereq: jr st; one of the following: Geog 105(P), 110(P), 201(P), 305(P), or 309(P); one comparative study of religion course recom.

464 Environmental Problems. 3 cr. U/G.
General discussion and case studies of geographical contexts and historical roots of modern environmental problems. History of human concern over adverse environmental impacts. Prereq: jr st & an intro course in a life science or environmental science.

470 Geography of South Asia. 3 cr. U/G.
Survey of the historical, cultural and economic geography of South Asia, including India and adjacent countries. Prereq: jr st; intro Geog, Anthro, or Econ course.

475 Geography of Soils. 3 cr. U/G.
Systematic and regional study of soils, interrelationships of soils with the physical and cultural landscape. 2 hrs lec, 2 hrs lab. Prereq: jr st; Geog 120(P), 121(P), or 125(P) or equiv.

480 Techniques in Quaternary Palynology. 3 cr. U/G.
Practicum in the use of fossil pollen analysis for reconstruction of past environments. The class will investigate the late-quaternary history of a local wetland. Prereq: jr st; Geog 340(P) or Bio Sci 310(P) or cons instr.

490 Northern Lands. 3 cr. U/G.
Topical and regional analysis of the Arctic and sub-Arctic areas of North America and Eurasia, emphasis on Alaska, northern Canada and Greenland. Prereq: jr st; an intro course in geog.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work levels, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

520 Physical Geography of the City. 3 cr. U/G.
Spatial aspects and interactions of plants, animals, climate, soils, and water resources relevant to human activities in the urban environment. Prereq: jr st & Geog 120(P) or 125(P); or grad st.

522 Cartographic Design. 3 cr. U/G.
Cartographic design and desktop production methods, principles of color theory, black and white and color mapping. 2 hrs lec, 2 hrs lab. Prereq: jr st & Geog 405(P).

525 Geographic Information Science. 4 cr. U/G.
Geographic and information theoretical foundations of geographic information systems (GIS). Use of macro languages in a software project to expand GIS functionality. 3 hrs lec, 2 hrs lab. Prereq: jr st, & Geog 215(P); or grad st.

540 Globalization and the City. 3 cr. U/G.
Spatial aspects of globalization and their impact on the city. Topics include emergence of global cities, impacts on urban development, and global era urban strategies. Prereq: jr st.

547 Spatial Analysis. 4 cr. U/G.
Advanced analysis techniques, including multivariate relationships and spatial modeling. Prereq: jr st; Geog 247(P) or dept-approved equiv.

564 Urban Environmental Change and Social Justice. 3 cr. U/G.
Spatial aspects of contributors to urban environmental change affecting social justice. Inequitable distribution of environmental risks and benefits; challenge of developing policies. Prereq: jr st.

625 Intermediate Geographic Information Science. 4 cr. U/G.
Concepts and techniques of geographic information science (GIS), with emphasis on GIS-based spatial analysis, associated applications, and technology. 3 hrs lec, 2 hrs lab. Prereq: jr st: Geog 525(P) or UrbPlan 591(P) or 791(P); or cons instr.

650 Geography Field Work. 3 cr. U/G.
Geographic field techniques and field problems; classroom preparations and field projects. Students will pay fieldwork expenses. Retakable w/chg in topic to 9 cr max. Prereq: jr st; writ cons instr.

653 Soils of Wisconsin Field Study Tour. 2 cr. U/G.
Three-day field study tour to representative areas in the major soil zones of Wisconsin; three pre-trip and three post-trip sessions; written reports. Prereq: jr st; Geog 475(P) or Geo Sci 401(P) or cons instr.

654 Tropical Field Course: (Subtitled). 3 cr. U/G.
Study of geographic field problems and techniques in the tropics. Classroom preparations, field projects and field trip to the tropics. Students will pay field trip expenses. Retakable for cr w/chg of field topic & site to 9 cr max. Prereq: jr st; writ cons instr.

655 Arctic Winter Field Course: 3 cr. U/G.
Study of geographic field problems and techniques under arctic winter conditions. Classroom preparations, field projects and field trip to the Arctic. Student pays field trip expenses. Retakable w/chg of field project & site to 9 cr max. Prereq: jr st; cons instr.

656 Arctic Summer Field Course: 3 cr. U/G.
Study of geographic field methods and research under arctic summer conditions. Classroom preparations, field projects and field trip to the Arctic. Student pays field trip expenses. Retakable w/chg of field project & site to 9 cr max. Prereq: jr st; cons instr.

698 GIS/Cartography Internship. 1-6 cr. U/G.
Practical GIS/cartography experience with government agency or private firm under supervision of working expert and faculty member. Intern's contract specifies duties and duration. Retakable to 6 cr max. Prereq: jr st; Geog 215(P); writ cons instr & dept chair.

703 Advanced Remote Sensing. 3 cr. G.
Advanced techniques of image processing and analysis, including classification, georegistration, and spatial modeling. Prereq: grad st; Geog 403(P).

725 Advanced Geographic Information Science: Geographic Modeling. 3 cr. G.
Advanced spatial modeling with both GIS and other tools of geo-computation, including examination of conceptual models aimed at an analysis of their possible implementation. Prereq: grad st; Geog 625(P).

727 Qualitative Research. 3 cr. G.

Qualitative research as applied in geography, including the relationship between quantitative and qualitative approaches, issues of interpretation, and ethics of field work. Prereq: grad st.

734 GIS and Society. 3 cr. G.
Interconnected relationship between Geographic Information Science (GIS) and society, including hidden impacts and implications of such a relationship. Prereq: grad st.

742 Urban and Regional Dimensions of Global Economic Change. 3 cr. G.
Geographic perspectives on urban and regional change as 'developed' and 'less developed' parts of the world become more interconnected by wider international processes of change. Prereq: grad st.

744 Cities, Regions, and Globalization. 3 cr. G.
Globalization process and impact on cities and regions, including emergence of global cities and regions, impact on uneven development, and global era urban strategies. Prereq: grad st

750 Remote Sensing and Urban Analysis. 3 cr. G.
Seminar in remote sensing technologies and applications in urban analyses, including land use/land cover analysis, socio-economic information estimation, heat-island effect, sprawl monitoring, and growth modeling. Prereq: grad st; Geog 403(P); Geog 525(P) or UrbPlan 591(P) or 791(P).

810 Introduction to Techniques of Research and Presentation. 3 cr. G.
Proseminar on the scholarly use of materials in all aspects of geography; training for effective presentation in both written and oral form. Prereq: grad st.

870 Contemporary Geographic Approaches: (Subtitled). 3 cr. G.
Foundations of geographic inquiry, with emphasis on the roles of sub-disciplines, and generalist/specialist approaches in the development of geographic science. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

871 Theory and Methodology in Geography. 3 cr. G.
The role of theory in geography, with emphsis on the examination and critical evaluation of recent theoretical and methodological developments in the discipline. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

880 Challenges to Urban Sustainability. 3 cr. G.
Urban environmental management theory and practice, history of the urban environmental crisis, and alternative strategies for understanding human activity/ecological process relationships in urban areas. Jointly-offered w/& counts as repeat of UrbPlan 880. Prereq: grad st.

885 Geography Practicum. 3 cr. G.
Opportunity for graduate students to work together to solve a real world problem facing Milwaukee. Developing/sharpening organizational, analytical, communication, and decision-making skills required of geographers. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirements. Fee assessed for 1 cr. Prereq: grad st.

889 Internship in Geography. 1-6 cr. G.
Application of advanced principles of geography in a business, organizational, educational, political, or other appropriate setting. Intern's contract specifies duties and duration. Retakable to 6 cr max. Prereq: grad st; Geog 810(P); writ cons instr & dept chair.

890 Research and Master Thesis. 1-6 cr. G.
Research connected with master thesis. Retakable to 6 cr max. Prereq: grad st.

905 Seminar: Selected Topics in Geography: (Subtitled). 3 cr. G.
- Retakable w/topic chg to 9 cr max. Prereq: grad st.

910 Techniques of Research and Presentation. 3 cr. G.
Seminar on theoretical and practical aspects of geographic research, funding, presentation, and publication. Prereq: grad st in Geog Ph.D. program.

930 Seminar: Cultural Geography: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

931 Seminar: Population Geography: 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

932 Seminar: Economic Geography: (Subtitled). 3 cr. G.
Analysis in depth of significant topics in advanced economic geography specializations: agricultural geography, geography of manufacturing, and geography of transportation. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

934 Seminar: Urban Geography: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

940 Seminar: Physical Geography: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

941 Seminar: Climatology: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

942 Seminar: Geography of Land Form: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

945 The Internal Structure of the City. 3 cr. G.
The interaction of forces responsible for the evolution of the city as a spatial form and the allocation of economic and social activity within the spatial configuration. Geog 945 & Urb Std 945 are jointly-offered; they count as repeats of one another. Prereq: grad st.

950 Seminar: Regional Geography: (Subtitled). 3 cr. G.
Analysis in depth of significant topics in advanced regional geography. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

960 Seminar: Geographic Techniques: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

962 Problems in the History of Cartography: (Subtitled). 3 cr. G.
An introduction to methods in the history of cartography and to the evaluation of maps as historical sources. Seminar. Specific topics and any additional prerequisites will be announced in schedule of classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

990 Research and Doctoral Dissertation. 1-12 cr. G.
Research projects connected with dissertation. Retakable to 12 cr max. Prereq: grad st.

999 Independent Work. 1-6 cr. G.
Independent reading or project. Retakable w/chg in topic to 12 cr max. Prereq: grad st.

GEOSCIENCES

- Phone: (414) 229-4561
- Fax: (414) 229-5452
- E-mail: aquadoc@uwm.edu

School/College: College of Letters and Science

Degrees Conferred:

- MS in Geosciences
- PhD in Geosciences

Overview

The Department of Geosciences offers graduate work emphasizing applied aspects of the hydrologic, geological, and geophysical sciences. The geological sciences concentration prepares students for careers in such areas as engineering and environmental geology, hydrogeology, geophysical exploration, mining and petroleum geology.

The MS degree program trains students equally for professional practice and continued graduate study. The typical course of study takes two years to complete. The PhD degree program, with interwoven components in lithospheric and hydrospheric science, is problem oriented rather than specialty oriented: this program is designed to produce scholars and practitioners capable of applying their training to achieve sound and pragmatic solutions to real problems in the earth sciences. Students in the doctoral program will normally spend a minimum of two years of formal course work, not including dissertation research.

The Department has a variety of geological and geophysical field equipment including a drill rig, portable water sampling and analytical systems, and marine and land-based seismic and electrical resistivity systems. In addition, the Department maintains the following equipment directly or through its association with the UWM Center for Great Lakes Studies: x-ray diffractometer and spectrometer, atomic absorption unit, gas and ion chromatographs, liquid scintillation counter, cold region environmental chambers, operating well field, seismograph, Paleomagnetics laboratory, and recirculating flume.

Supporting facilities in the University include a computing center, scanning electron microscope, a cartographic laboratory, the Saukville Field Station 50 km north of the campus, the Center for Great Lakes Studies, and the Urban Research Center.

The Department also maintains the extensive geological collections of the Greene Geological Gallery and cooperates actively with the Milwaukee County Public Museum.

Graduate Faculty

Professors

Cherkauer, Douglas S., Ph.D., Princeton University
Grundl, Timothy J., Ph.D., Colorado School of Mines, Chair
Harris, Mark T., Ph.D., Johns Hopkins University
Isbell, John L., Ph.D., Ohio State University
Kean, William F., Ph.D., University of Pittsburgh
Sverdrup, Keith, Ph.D., University of California-San Diego

Associate Professor

Cameron, Barry I., Ph.D., Northern Illinois University

Assistant Professors

Czeck, Dyanna, Ph.D., University of Minnesota
Dornbos, Stephen, Ph.D., University of Southern California
Fraiser, Margaret, Ph.D., University of Southern California
McHenry, Lindsay, Ph.D., Rutgers University
Xu, Shangping, Ph.D., Princeton University

Master of Science in Geosciences

Admission

An applicant must meet Graduate School requirements plus the following departmental requirements to be considered for admission to the program:

- Undergraduate preparation consisting of one year each of: college chemistry, college physics, and calculus; one summer of field training in geology for students majoring in geology.
- Undergraduate grade point average of 3.0 (4.0 scale).
- Submission of scores on the Graduate Record Examination (General Test).

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree. A geology student who lacks field training must acquire the training not later than the summer following initial enrollment.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The student is assigned a temporary advisor at the time of initial enrollment and requests a faculty member to serve as the thesis advisor after selecting an area of specialization.

Credits and Courses

Minimum degree requirement is 30 graduate credits, at least 24 of which must be earned in formal course credits and up to 6 of which may be earned through an acceptable thesis. A graduate student is allowed to register for a maximum of nine 990 research credits, no more than 6 of which may be counted toward the 30-credit requirement.

All students in their second or later year are required to present a progress report annually to the Department.

Proposal for Thesis

Prior to the formal undertaking of thesis research, the student must prepare a written proposal for the thesis problem including an estimate of costs to be incurred. Copies of the proposal are to be distributed to the faculty advisor and the Department reading file. One copy is to be placed in the student's permanent Department file. An abstract of the proposal is to be distributed to each Department faculty member for comment and criticism.

Thesis

The student must write an acceptable thesis embodying the results of original research completed under the direction of the advisor.

Comprehensive Examination

The student must pass a comprehensive examination, either oral or written or both. In part a defense of the thesis, the examination covers the student's entire graduate program of studies. At the option of the student, the part of the examination consisting of the presentation of the results of thesis research may be open to other graduate students.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Geosciences

Admission

To be considered for admission to the program, an applicant must meet Graduate School requirements plus the following program requirements:

1. Hold a master's degree in one of the natural sciences, engineering, or mathematics or have equivalent experience.

2. Have an appropriate background in aspects of the geosciences relevant the intended field of study.
3. Submit scores from the Graduate Record Examination (general test).
4. Arrange to have at least three (3) letters of recommendation sent to the Graduate Coordinator of the Department of Geosciences.

Exceptional students without a MS degree may be considered for admission. A student who holds a master's degree from UWM must formally reapply for admission to the Graduate School before continuing studies toward the Ph.D.

Course of Study

Doctoral students must earn 54 credits beyond the bachelor's degree, of which 24 credits may be taken from formal course work completed as part of the master's study. At least 21 graduate credits beyond the master's degree must be earned in formal coursework.

Each student must prepare a formal Program of Study to be submitted to the Graduate School within the first semester in the program. Courses are selected in consultation with the student's advisor with approval from the Doctoral Committee. Students are strongly advised to take courses from each of their committee members prior to taking the doctoral preliminary examination. For full time students, coursework should be completed within 4 semesters after admission to the PhD program. In unusual situations, this timetable may be extended beyond 4 semesters. A timetable for coursework completion for part time students will be established on an individual basis.

Residency Requirement

The Graduate School requires satisfaction of a residency requirement. This involves completing at least 8 graduate credits in 2 consecutive semesters or 6 graduate credits in 3 consecutive semesters (exclusive of summer sessions) while in full doctoral status at UWM. In addition, at least half of the graduate credits required for the PhD must be earned at UWM.

Quantitative Skill

A working knowledge of computer programming, statistics, numerical methods, or GIS appropriate to the student's field of study is required. Standards for this requirement will be established by the student's Doctoral Committee. Undergraduate courses taken to meet this requirement do not apply to the course requirements for the PhD.

Doctoral Committee

The membership of the Doctoral Committee will be established in the student's first semester. The Committee must consist of the following: the doctoral student's advisor as chair (or co-advisors as co-chairs); at least three additional graduate faculty members from the Geosciences Department; and at least one member from outside the student's fields of specialization. The student is required to arrange a meeting with the Doctoral Committee at least once each year.

The student may request a change of advisor if another faculty member is available, willing, and able to assume that role. If this change involves a significant modification of the area of specialization or research, the student's record will be reexamined to determine whether the student's background is sufficient for the new specialty. If it is not, it may be necessary for the student to withdraw from the program and reapply in the new specialty. Normally such a change of direction will not be allowed once the dissertation proposal has been defended.

Doctoral Preliminary Examination

Advancement to dissertator status requires that students must pass a doctoral preliminary examination and then develop and successfully defend a dissertation proposal. The doctoral preliminary examination is administered in two parts: a set of written exams and a follow-up oral exam. The structure of the examination will be established by the student's Doctoral Committee. It must be passed prior to the completion of 24 credits in the program and must demonstrate knowledge in the fields of geology and related sciences defined by the Doctoral Committee. The written and oral exams are taken after the residency requirement is fulfilled.

Subsequently, the student must present to the Doctoral Committee a written proposal in NSF format for her/his dissertation research. At a minimum, it should provide an overview of and approach to the problem being addressed, a budget, and appropriate bibliographic references. The dissertation proposal should be defended within one semester of completion of the preliminary exam. Students who successfully pass all three elements of the doctoral preliminary examination are admitted to doctoral dissertator status.

Annual Presentation of Results

Each dissertator is required to make a 30-minute presentation of research results at a Geosciences Colloquium each year. Dissertators also are required to make a 50-minute colloquium presentation of the results of the completed doctoral research prior to the dissertation defense.

Dissertation

The candidate must present a written dissertation reporting the results of independent, original research carried out under the direction of the major professor. Prior to a defense, the dissertation must be reviewed by a Reading Committee consisting of the major professor and at least two other members of the Doctoral Committee. Information regarding dissertation deadlines, preparation, and review of the dissertation is available from the Student Services Office of the Graduate School.

Dissertation Defense

The student first will present research results in a colloquium. Then the dissertation must be orally defended before the entire Doctoral Committee. The defense may include questions related to any of the dissertator's fields of study. If the dissertation is defended and the oral examination is passed to the satisfaction of a majority of the Doctoral Committee, the candidate is passed and recommended for the degree.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

Additional Requirements and Information

Detailed information about program requirements is provided to each student following admission and is available from the Department office. For additional information on Graduate School Ph.D. requirements, see the Doctoral Requirements Web page.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

400 Water Quality. 3 cr. U/G.
Water availability and water quality in surface and subsurface water bodies; management of water as a resource. 2 hrs lec, 3 hrs lab. Prereq: jr st; Chem 102(P); Math 232(P); or cons instr.

401 General Soil Science. 3 cr. U/G.
Soil profile development, weathering, soil mineralogy, water and nutrient relationships, classification of soil. 2 hrs lec, 3 hr lab. Required field trips for which fees are assessed. Prereq: jr st; Chem 104(P) or equiv or cons instr.

405 Geology for In-Service Teachers: (Subtitled). 1-3 cr. U/G.
Basic, advanced or new topics in geology for in-service teachers. Retakable with change in topic to max of 9 cr. Prereq: in-service teacher, additional prereqs depending on topic.

409 Process Geomorphology. 3 cr. U/G.
Study of geological processes and their effect on the formation and evolution of land forms. Lec, lab, field trips for which

fee is assessed. Prereq: jr st; Geo Sci 100(P), Geog 120(P), or 121(P).

435 History of Geologic Thought. 3 cr. U/G.
History of development of the major concepts in geology. Prereq: jr st; Geo Sci 102(P) or cons instr.

440 Geochemical Thermodynamics. 3 cr. U/G.
Basic equilibrium thermo-dynamics applied to low-temperature and high-temperature geochemical problems. Prereq: jr st, Chem 104(P), Geo Sci 301(P), & Math 231(P).

443 Glacial and Pleistocene Geology. 3 cr. U/G.
Mechanics of glacial flow, Pleistocene stratigraphy, and laboratory techniques. Lec, lab, & field trips for which fees are assessed. Prereq: jr st; Geo Sci 100(P) or 101(P) or Geog 120(P) or 121(P). Geo Sci 102(R) or 108(R).

461 Physical Oceanography. 3 cr. U/G.
Overview of physical oceanography, conservation of mass, salinity and momentum, thermodynamics, equations of motion. Waves, currents and circulation. Prereq: jr st; Math 232(P); & Physics 123(P) or 210(P) or 220(P).

463 Physical Hydrogeology. 3 cr. U/G.
Study of ground water occurrence, its interrelationship with surface water, aquifer properties, groundwater flow and water supply development, including well hydraulics, water quality, and groundwater law. Lec, lab, & field trip for which fee is assessed. Prereq: jr st; Geo Sci 100(P) or 101(P); Math 232(P).

464 Chemical Hydrogeology. 3 cr. U/G.
Natural chemical processes that occur in groundwater systems, how they are modified by human activity and contamination, and attempts to regulate them. Lec, lab. Prereq: jr st; Chem 102(P).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

511 Stratigraphy and Sedimentation. 3 cr. U/G.
Techniques and principles of sedimentology and stratigraphy, including methods of correlation, analysis of facies, stratigraphic mapping, and tectonic controls of sedimentation. Lec, lab, field trips. Prereq: jr st ; Geo Sci 102(P) or equiv.

515 Physical Sedimentology. 3 cr. U/G.
Physical properties, processes, and environments of clastic sediments. Lec, lab, field trip for which fee is assessed. Prereq: jr st; Geo Sci 511(P).

520 Introduction to Paleontology. 3 cr. U/G.
General study of fossils and theoretical principles used in the study of paleontology. Lec, lab, field trips. Prereq: jr st; Geo Sci 102 or 108.

545 X-Ray Analytical Methods. 3 cr. U/G.
Methods in x-ray diffractometry and spectrometry. Nature and generation of ex-rays, collection and interpretation of powder diffraction patterns and elemental analysis using x-ray spectrometry. Not open to students who have cr in Geo Sci 547. Prereq: jr st; Chem 104 or equiv, Physics 122 or 208, Math 232.

550 Soils, Landscape, and the Environment. 3 cr. U/G.
An overview of soil development in various depositional and landscape systems; soil's relation to environmental pollution and erosion problems. Required field trip. Prereq: jr st; Geo Sci 401(P) or Geog 475(P) or cons instr.

558 Conducted Field Trip: (Subtitled). 1-3 cr. U/G.
Field trip to a classical geologic area. Preceded by a seminar. Retakable w/chg in topic to 9 cr max, only 3 cr of which may be applied toward geo sci major. Prereq: jr st; cons instr.

562 Environmental Surface Hydrology. 3 cr. U/G.
Land-atmosphere interactions, modeling of runoff generation, and water movement in the vadose zone. 3 hrs lec. Prereq: jr st; Math 232(P); or cons instr.

563 Field Methods in Hydrogeology. 3 cr. U/G.
Introduction to current equipment and methodology used in field evaluation of hydrologic systems. Well installation and monitoring, stream gaging, indirect surface observations. Lab, field trip for which fee is assessed. Prereq: jr st; Geo Sci 463(P).

599 Geology of Wisconsin--Field Course. 3 cr. U/G.
Multi-institutional team-taught, conducted field course throughout Wisconsin; instruction in the field, using exposures on which Wisconsin's geological history has been interpreted. Prereq: jr st; Geo Sci 302(P).

614 Advanced Structural Geology. 3 cr. U/G.
Advanced analysis of deformation as applied to geological structures from microscopic through regional scales. Lec, field trip for which fee is assessed. Prereq: jr st; Geo Sci 414(P); Math 231(C).

635 Volcanology. 3 cr. U/G.
Why and when volcanoes erupt; predicting whether eruptions will be explosive or passive. Prereq: jr st; Geo Sci 302(P) or cons instr.

636 Geochronology. 3 cr. U/G.
Theory and application of radiometric and other numerical dating methods in geology, archaeology, and paleoanthropology. Anthro 636 & Geo Sci 636 are jointly offered; they count as repeats of one another. Prereq: jr st & Anthro 101(P) or 103(P) or Geo Sci 100(P); or grad st.

638 Advanced Igneous Petrology. 3 cr. U/G.
Recent trends and applications in the fields of igneous petrology. Quantitative modelling of important petrologic processes. Critical reading of journal articles in petrology. Lec. Prereq: jr st; Geo Sci 302(P).

655 Topics in Structure and Tectonics: (Subtitled). 1-3 cr. U/G.
- Retakable w/chg in topic to 9 cr max. Prereq: jr st; Geo Sci 414(P) or cons instr.

663 Earthquake Seismology. 3 cr. U/G.
Cause, size, location, hazards, prediction and control of earthquakes and the interpretations of earthquake seismograms. Prereq: jr st; Geo Sci 316(P); or grad st & cons instr.

668 Geoelectrical Methods. 3 cr. U/G.
Fundamentals of electrical resistivity surveys and electromagnetic methods, with an emphasis on surficial and environmental applications. Prereq: jr st; Geo Sci 316(C), 463(C), or 661(C).

688 Seminar in Geosciences for Teachers: (Subtitled). 1-6 cr. U/G.
Seminar modules on various topics in geosciences offered for teachers. Open only to practicing science teachers with demonstrable expertise in geoscience. Retakable w/chg in topic to 9 cr max. Prereq: current teaching contract.

695 Internship in Geoscience. 1-3 cr. U/G.
An internship consistent with the student's plan of study in geosciences. Requirements and evaluation determined by the department on an individual basis. Prereq: jr st; cons dept.

696 Topics in the Geological Sciences: (Subtitled). 1-3 cr. U/G.
Add'l prereqs announced in Schedule of Classes each time course offered. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

697 Seminar in the Geological Sciences: (Subtitled). 1-3 cr. U/G.
Specific credits and add'l prereqs announced in Schedule of Classes each time course offered. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

698 Research Experience for Teachers. 1-6 cr. U/G.
Enrichment of students' geoscience background. Work with faculty mentor to develop an innovative teaching program for use in students' own classrooms. Open only to practicing science teachers with demonstrable expertise in geoscience. Retakable w/chg in topic to 9 cr max. Prereq: current teaching contract.

704 Biogeochemistry: 1-4 cr. G.
The role of aquatic, atmospheric, and terrestrial environments in mediating and controlling the cycles of biologically important elements on time scales of milliseconds to millenia. Jointly-offered with Bio Sci 704 & Chem 704. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

730 Modelling Techniques for Hydrogeology. 3 cr. G.

Study and application of modelling techniques in hydrogeology. Includes finite difference and finite element techniques for groundwater flow, contaminent transport, and geochemistry. Prereq: grad st; Geo Sci 463; knowledge of fortran or equiv; cons instr.

740 Carbonate Sedimentology. 3 cr. G.
Depositional processes, environments and stratigraphic analysis of carbonate rocks. Lec, lab, field trip, for which fee is assessed. Field trip for which fee is assessed. Prereq: grad st; Geo Sci 511 or equiv.

749 Biogeochemistry of Soils. 3 cr. G.
Biogeochemical processes in soils and their impact on water quality. 3 hrs lec. Prereq: grad st; Geo Sci 464(P) or cons instr.

750 Contaminant Hydrogeology. 3 cr. G.
Transport and fate of contaminants in aquifers, aquitards, and unsaturated geologic materials. Prereq: grad st; Geo Sci 464(C).

790 Graduate Seminar in the Geological Sciences: (Subtitled). 1-3 cr. G.
Add'l prereqs announced in schedule of classes each time course offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

804 Current Topics in Biogeochemistry: 1 or 2 cr. G.
Impact of biological, geological, and chemical principles on selected interdisciplinary topics; scientific and mass media publications and results of new studies are critiqued. Jointly-offered with Bio Sci 804 & Chem 804; retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

805 Field and Lab Techniques in Biogeochemistry: 1 or 2 cr. G.
Field and sampling methodology and analytical techniques employed in the study of biogeochemistry. May include underwater technology, isotopes/tracers, statistics, and remote sensing. Jointly-offered with Bio Sci 805 & Chem 805. 4 lab/field hrs per cr. Retakable w/chg in topic to 6 cr max. Prereq: grad st; cons instr.

888 Candidate for Degree. 0 cr. G.
Available for grad students who must meet minimum cr load requirement. Fee for 1 cr assessed. Prereq: grad st.

990 Master's Thesis. 1-8 cr. G.
- Prereq: grad st; cons instr & completed thesis proposal.

997 Doctoral Externship. 1-12 cr. G.
- Prereq: grad st; admis to candidacy for Ph.D.

998 Doctoral Dissertation. 1-12 cr. G.
- Prereq: grad st; admis to candidacy for Ph.D.

999 Advanced Independent Reading. 1-4 cr. G.
Independent geologic study. Retakable to 4 cr max. Prereq: grad st & cons instr.

GRADUATE STUDIES

School/College: Graduate School

No Degree Conferred: Courses Only

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

801 Introduction To Academic Life. 1 cr. G.
Overview of research, teaching, and service roles in higher education, including legal and ethical issues, the academic job market, and the tenure/promotion process. Designed for students contemplating careers in academic institutions. Prereq: grad st.

803 Teaching & Learning in College: Reflections on Theory and Practice. 1 cr. G.
Teaching and learning theories and strategies; reflection on personal beliefs and expectations about the role of teacher and student and understanding of professional practice and development in higher education. Prereq: grad st.

HEALTH CARE ADMINISTRATION

School/College: School of Allied Health Professions

No Degree Conferred: Courses Only

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

337 (HIA 337) Introduction to Healthcare Databases and Technologies. 3 cr. U/G.
Introduction to origins, sources and content of healthcare data; technologies used to manage and control healthcare databases. Prereq: jr st in HCA or cons instr, HCA 224 (HIA 224)(P).

420 Advanced Systems Thinking for Healthcare Leaders. 3 cr. U/G.
An in-depth view of systems theory, Deming's system of profound knowledge, and Goldratt's theory of constraints and how these theories can improve healthcare organizations. Prereq: sr st; HCA 220(P) & 307(P); HCA 340(HIA 340)(P); Bus Adm 330(P); or cons instr.

441 (HIA 441) Healthcare Information Systems Analysis and Design. 3 cr. U/G.
Overview of health facility computerized information systems. Information systems theory, systems analysis, and implementation of computer systems from a managerial/planning perspective. Prereq: jr st in HCA or cons instr; HCA 337(HIA 337)(P).

442 (HIA 442) Healthcare Database Design and Management. 3 cr. U/G.
Study of database structure, data models, and operations issues. Emphasis on data security, integrity, integration, and access. Healthcare database applications. Prereq: sr st in HCA or cons instr; HCA 441(HIA 441)(P).

444 Introduction to Text Retrieval and Its Applications in Biomedicine. 3 cr. U/G.
Introduction to text retrieval, text classification and their biomedical applications; topics include: indexing, query processing, and document retrieval methods. Jointly offered with & counts as repeat of CompSci 444, CompSci 744, & HCA 744. Prereq: jr st; CompSci 351(P) or HCA 442(P).

497 Health Care Administration - Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance to Study Abroad Prog.

590 Topics in Health Sciences: (Subtitled). 1-3 cr. U/G.
Topics of current interest within the field of health sciences. The theme for each semester's offering will be posted. May be repeated with change in topic to max of 9 cr for grad students. Prereq: jr st; cons instr for grad cr.

699 Advanced Independent Study: 1-3 cr. U/G. - May be retaken with change in topic. Prereq: U: jr st, 2.5 gpa, writ cons instr; G: grad st; writ cons instr.

700 Introduction to Health Care Informatics. 2 cr. G.
An introduction to the history, theory, applications, and organizational context of health informatics. Prereq: grad st or cons instr.

721 Health Information Technology Procurement. 3 cr. G.
A study of the concepts related to acquisition of information technology, including evaluation, selection, and contracts. Emphasis on integration of information technology and strategic planning. Prereq: grad st; Bus Adm 749(C) or CompSci 557(C) or HCA 442 (HIA 442)(C) or cons instr.

722 Legal, Ethical and Social Issues in Health Care Informatics. 3 cr. G.
Legal, ethical and social issues in the use of health care computer-based technology and information systems. Prereq: grad st

723 Health Care Systems Applications - Administrative and Clinical. 3 cr. G.
A study of the administrative and clinical applications of health information systems with emphasis on content, functional and technical requirements. Prereq: grad st; Bus Adm 749(C) or CompSci 557(C) or HCA 442 (HIA 442)(C) or cons instr.

744 Text Retrieval and Its Applications in Biomedicine. 3 cr. G.
Fundamental issues and current research in text retrieval, text classification and their biomedical applications; programming and use of indexing, query processing, and document retrieval methods. Not open to students who have cr in COMPSCI 744, COMPSCI 444 or HCA 444. Prereq: grad st; COMPSCI 351 (P) or HCA 442 (P) or cons instr

760 Biomedical and Healthcare Terminology and Ontology. 3 cr. G.
Theory and application of ontology, controlled terminology, and coding to health information systems. Prereq: grad st

890 Health Care Informatics Research and Thesis. 1-6 cr. G.
Preparation of a thesis under the direction of the student's major professor. Prereq: grad st, cons instr.

891 Health Care Informatics Professional Project. 3 cr. G.
Preparation of a professional project under the supervision of the student's major professor. Prereq: grad st; cons instr.

909 (effective 01/26/2009) Guided Teaching Experience in Health Sciences. 3 cr. G.
This course provides the student, under the supervision of a faculty member, with the opportunity to design, deliver, and evaluate an undergraduate course. Jointly offered w/ and counts as a repeat of C L Sci 909. Prereq: grad st; Occ Thpy 900(P); cons instr

HEALTH CARE INFORMATICS

- Phone: (414) 229-2645
- Fax: (414) 229-2619
- E-mail: gschramm@uwm.edu

School/College: College of Health Sciences

Degrees Conferred:

- MS in Health Care Informatics

Overview

The College of Health Sciences, Health Care Administration and Informatics Program, offers the Master of Science in Health Care Informatics (HCI).

The HCI Program is designed to meet the demand for highly trained health care informatics professionals by drawing on the experience and expertise of several UWM disciplines: Computer Science-College of Engineering and Applied Science (CEAS), Health Care Administration and Informatics . College of Health Sciences (CHS), Management Information Systems-Lubar School of Business (LSB), and the School of Information Studies (SOIS). The curriculum covers several areas including: systems analysis and design, database and project management, decision support, network design, and health care applications and procurement.

The program is designed for full-time and part-time students who seek employment as health care informatics professionals within health care delivery systems, managed care organizations, and with health care computer vendors.

Graduate Faculty

(Professors' home departments, programs, or schools appear in parentheses)

Professors

Hemant Jain, Ph.D. Lehigh University (Business Administration)
Mary K. Madsen, Ph.D. University of Wisconsin-Madison (Health Care Administration and Informatics
K. Ramamurthy, Ph.D. University of Pittsburgh (Business Administration)

Associate Professors

Elizabeth Buchanan, Ph.D. University of Wisconsin-Milwaukee (Information Studies)
Alex Koohang, Ph.D. Southern Illinois University at Carbondale (Information Studies)
John Lynch, Ph.D. Marquette University (Health Care Administration and Informatics)
Susan McRoy, Ph.D. University of Toronto (Electrical Engineering & Computer Science)
Derek Nazareth, Ph.D. Case Western Reserve University (Business Administration)
Timothy Patrick, Ph.D. University of Missouri-Columbia (Health Care Administration and Informatics)
Ali Reza, Ph.D. University of Wyoming (Electrical Engineering & Computer Science)
Atish Sinha, Ph.D. University of Pittsburgh (Business Administration)
Hanh Trinh, Ph.D. Virginia Commonwealth University (Health Care Administration and Informatics)
Dietmar Wolfram, Ph.D. University of Western Ontario (Information Studies)
Jin Zhang, Ph.D. University of Pittsburgh (Information Studies)

Assistant Professors

Joseph Bockhorst, Ph.D., University of Wisconsin-Madison (Electrical Engineering & Computer Science)
Amol Mali, Ph.D. Arizona State University (Electrical Engineering & Computer Science)
Min Wu, Ph.D. University of North Carolina (Health Care Administration and Informatics)
Hong Yu, Ph.D., Columbia University (Health Care Administration and Informatics)

Master of Science in Health Care Informatics

Admission

An applicant must meet Graduate School requirements plus the following requirements to be considered for admission to the program:

1. Submission of GRE scores taken within the past five years.
2. Completion of the following foundation requirements or equivalents prior to admission into the program.* HCI foundation courses provide a basis for subsequent coursework:
   - **HCA 102:** Health Care Delivery in the U.S., 3 credits or BUS ADM 756: Health Care Delivery Systems, 3 credits
   - **CL SCI 301-305:** Human Pathophysiology, 5 credits or CL SCI 701 & 702: Human Pathophysiology I & II, 6 credits.
   - **HMS 270:** Statistics in the Health Professions, 3 credits or BUS ADM 210: Introduction to Management Statistics, 3 credits.
   - *Individual course exemptions will be determined on a case-by-case basis. Credits earned in these courses do not count toward the degree.
3. Basic proficiency in the use of word processing, spreadsheet, and database software.

Major Professor as Advisor

A student must have a major professor to advise and supervise the student.s studies as specified in Graduate School regulations. Initially the director of the HCI Program advises and supervises newly admitted students. Students are then assigned faculty advisors according to faculty advising loads.

Credits and Courses

The Master of Science in Health Care Informatics degree will be awarded upon completion of appropriate prerequisite course work and 35 credits of prescribed graduate study. Credits must be taken in each of nine Core Content areas, in an Emphasis Area, and in the project or thesis course.

Core Content

Completion of one of the following courses or equivalents in each of the core content areas is necessary to fulfill this requirement. Combined undergraduate and graduate level (U/G) courses must be taken for graduate credit. Courses are 3 graduate credits unless otherwise noted.

Health Care Informatics
- HCA 700: Introduction to HealthCare Informatics, 2 cr

Programming
- BUS ADM 740: MIS Concepts & Languages
- BUS ADM 813: Object-Oriented & Visual Paradigms

Systems Analysis and Design
- BUS ADM 747: Systems Analysis & Design
- HCA 441: Healthcare Information Systems Analysis & Design, 3 cr (U/G)

Database Management
- BUS ADM 749: Data Management Systems
- COMPSCI 557: Introduction to Database Systems, 3 cr (U/G)
- COMPSCI 757: Data Base Organization and File Structure
- HCA 442: Healthcare Database Design & Management, 3 cr (U/G)

Project Management
- BUS ADM 748: Information Technology Project Management

Decision Support Systems
- BUS ADM 814: Intelligent Systems for Business
- COMPSCI 720: Computational Models of Decision Making

Network Design /Telecommunications
- BUS ADM 893: Infrastructure for Electronic Business
- COMPSCI 520: Computer Networks, 3 cr (U/G)

- L&I SCI 710: Electronic Networking and Information Services

Technology Procurement
- HCA 721: Health Information Technology Procurement, 3 cr (G)

Applications
- HCA 723: Health Care Systems Applications - Administrative & Clinical

Emphasis Areas

Students are expected to complete their training by choosing one (Thesis students) or two (Project Students) additional course(s) from one of the following emphasis areas: Technology, Decision Support Systems, or Administration. Combined undergraduate and graduate level (U/G) courses must be taken for graduate credit. Courses are 3 graduate credits unless otherwise noted.

Technology
- BUS ADM 740:MIS: Concepts and Languages, 2 cr (G)
- COMPSCI 431: Programming Languages Concepts, 3 cr (U/G)
- COMPSCI 469: Introduction to Computer Security, 3 cr (U/G)
- COMPSCI 536: Introduction to Software Engineering, 3 cr (U/G)
- COMPSCI 557: Introduction to Database Systems, 3 cr (U/G)
- COMPSCI 757: Database Organization & File Structure
- COMPSCI 759: Data Security
- L&I SCI 710: Electronic Networking and Information Services
- L&I SCI 782:Information Systems A & D

Decision Support Systems
- COMPSCI 710: Artificial Intelligence
- COMP SCI 720: Computational Models of Decision Making
- COMPSCI 723: Natural Language Processing
- COMPSCI 790: Advanced Topics in Computer Science
- COMPSCI 810: Knowledge Representation
- NURSING 727: Epidemiology in Community Health
- L&I SCI 817: Information Sources & Services

Administration
- BUS ADM 755: Health Care Administration
- BUS ADM 757: Managed Care & Integrated Health Networks
- COMPSCI 469: Introduction to Computer Security, 3 cr (U/G)
- COMPSCI 759: Data Security
- NURSING 727: Epidemiology in Community Health

Thesis/Project Options

Option A: Thesis Option

The thesis option requires students to plan, design, execute and report results of original applied or basic research. Students who choose the thesis option are responsible for identifying a HCAI major professor and a thesis committee. The thesis committee should consist of the major professor and at least two other graduate faculty. The student must pass a comprehensive oral examination in defense of the completed thesis. Six credits of HCA 990 may be applied toward the required 35 graduate credit minimum.

Option B: Professional Project Option

The project option requires students to apply Health Care Informatics research and theory to a professional situation. Students who choose the project option may count 3 credits of HCA 890 toward the 35 graduate credit minimum. The project must be written in compliance with program format requirements under the supervision of a HCAI major professor.

Program Completion Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Master of Science in Health Care Informatics/Master of Library and Information Science

The College of Health Sciences and School of Information Studies collaboratively offer a program designed to provide students with theoretical and practical exposure to the evolving field of healthcare informatics as practiced in hospitals, clinics, professional offices, corporations, the government, the insurance industry, and higher education.

Admission

Students are admitted to both graduate programs separately and admission requirements are consistent with those specified by the UWM Graduate School, the Department of Healthcare Informatics, and the MLIS program of the School of Information Studies.

Credit and Courses

Students accepted into this MS/MLIS program complete the following courses:

Healthcare Informatics

Introduction to Healthcare Informatics: 2 credits
- HCA 700 Introduction to HealthCare Informatics

Programming, 3 credits:
- BA 740 MIS Concepts & Languages **OR**
- BA 813 Object-Oriented & Visual

Systems Analysis and Design, 3 credits:
- BA 747 Systems Analysis & Design **OR**
- HCA 441 Healthcare Systems A & D

Database Management, 3 credits:
- BA 749 Data Management Systems **OR**
- CS 557 Introduction to Database Systems **OR** CS 757 Data Base Organization and File Structure **OR** HCA 442 Healthcare Database Design & Mgt

Project Management, 3 credits:
- BA 748 Information Technology Project Management

Decision Support Systems, 3 credits (Choose one of the following):
- BA 741 Decision Support Systems and Groupware
- BA 814 Intelligent Systems for Business
- CS 720 Computational Models of Decision Making
- HCA 744 Text Retrieval & Its Application in Biomedicine (pending)

Network Design/Telecommunications, 3 credits (Choose one of the following):
- BA 893 Infrastructure for Electronic Business
- CS 520 Computer Networks
- L&I SCI 710 Electronic Networking and Information Services

Technology Procurement, 3 credits:
- HCA 721 Health Information Technology Procurement

Clinical Applications, 3 credits:
- HCA 723 Healthcare Systems Applications - Clinical, Administrative & Research

Project or Thesis, 3 credits (Choose one of the following):
- HCA 890 Healthcare Informatics Research and Thesis
- HCA 891 Healthcare Informatics Masters Project

Minimum Credits for MS: 29

Library and Information Science

- L&I SCI 501 Foundations of Library and Information Science; 3 credits
- L&I SCI 511 Organization of Information; 3 credits
- L&I SCI 571 Information Access and Retrieval; 3 credits
- L&I SCI 591 Research in Library and Information Science; 3 credits

Electives (15 credits), including at least 4 of the following 5
- L&I SCI 510 Introduction to Reference Services and Resources
- L&I SCI 661 Ethics and the Information Society; 3 credits
- L&I SCI 714 Metadata; 3 credits
- L&I SCI 791 Information Architecture; 3 credits

- L&I SCI 835 Information Sources and Services—Health Sciences; 3 credits

Other elective; 3 credits

Students also must pass a comprehensive examination, or submit and successfully defend a thesis. The thesis option requires additional credits.

Minimum MLIS Credits: 27

Minimum Total Credits for the Program: 56

The credits for the coordinated program would typically be completed in both programs at the same time, rather than one program after the other. A student not completing the requirements for the coordinated degree program would need to complete all requirements for an individual program in order to receive a degree.

Time Limit

Students in the coordinated MS/MLIS degree program must complete all degree requirements within seven years of the first enrollment semester as a degree student.

Courses

Descriptions of required and elective courses offered at UWM as part of the M.S. in Health Care Informatics can be found under the respective curricular areas (see below).

- Business Administration (Bus Adm)
- Health Care Administration (HCA)
- Computer Science (CompSci)
- Library and Information Science (L&I Sci)
- Nursing (Nurs)

HEALTH SCIENCES

- Phone: (414) 229-5677
- Fax: (414) 229-2619
- E-mail: cah2@uwm.edu

School/College: College of Health Sciences

Degree Conferred:

- PhD in Health Sciences

Overview

The PhD in Health Sciences is an interdisciplinary degree program designed to accomplish three major objectives:

1. provide advanced study and research training opportunities in the human health sciences;
2. produce cohorts of scholars capable of advancing the discovery, dissemination, and application of new knowledge in the health sciences; and
3. prepare future academic leaders in the health sciences.

The curriculum includes a set of core courses providing a comprehensive structure for doctoral education including:

- philosophical foundations;
- concepts and practices that contribute to students, development as teaching scholars;
- research methods; and
- a series of seminars that build students, critical thinking skills, familiarity with a range of health sciences research topics, and experience in scholarly dialogue and presentation.

In addition to the core courses, the program includes concentration and cross-disciplinary courses in areas such as disability and rehabilitation, diagnostic and biomedical sciences, human movement sciences, population health, and health administration/policy. Independent research and the dissertation will be structured according to the choice of specialization.

Graduate Faculty

(Professors' home departments appear in parentheses)

Professors

John Dellinger, Ph.D. University of Illinois (Health Sciences)
Margaret Duncan, Ph.D. Purdue University (Human Movement Sciences)
Janis Eells, Ph.D. University of Iowa (Health Sciences)
Cynthia Hasbrook, Ph.D. University of Illinois (Human Movement Sciences)
Phyllis King, Ph.D. University of Wisconsin-Milwaukee (Occupational Therapy)
Randall Lambrecht, Ph.D. University of Wisconsin-Madison (Health Sciences)
Mary K. Madsen, Ph.D. University of Wisconsin-Madison (Health Sciences)
Roger Smith, Ph.D. University of Wisconsin-Madison (Occupational Therapy)
Ann Snyder, Ph.D. Purdue University (Human Movement Sciences)

Associate Professors

Anthony Azenabor, Ph.D. University of Benin (Health Sciences)
Robert Burlage, Ph.D. University of Tennessee (Health Sciences)
Ron A. Cisler, Ph.D. University of Wisconsin-Milwaukee (Health Sciences)
Marylou Gelfer, Ph.D. University of Florida (Communication Sciences and Disorders)
Carol Haertlein, Ph.D. Marquette University (Occupational Therapy)
Barbara Hart, Ph.D. University of Massachusetts (Human Movement Sciences)
Barbara Meyer, Ph.D. Michigan State University (Human Movement Sciences)
Paula Rhyner, Ph. D. Kent State University (Communication Sciences and Disorders)
Hanh Trinh, Ph.D. Medical College of Virginia (Health Sciences)

Assistant Professors

Kris Barnekow, Ph.D. University of Wisconsin - Madison (Occupational Therapy)
Jay Bauer, Ph.D., Northwestern University (Communication Sciences and Disorders)
Jennifer Earl, Ph.D. Pennsylvania State University (Human Movement Sciences)
Caryn Easterling, Ph.D. University of Wisconsin - Madison (Communication Sciences and Disorders)
Shelley Lund, Ph.D. Pennsylvania State University (Communication Sciences and Disorders)
Jeri-Anne Lyons, Ph.D. Medical College of Wisconsin (Health Sciences)
Kristian O'Connor, Ph.D. University of Massachusetts - Amherst (Human Movement Sciences)
Yiorgos Papaioannou, Ph.D. University of Strathclyde - (Human Movement Sciences)
Timothy Patrick, Ph.D. University of Missouri-Columbia (Health Sciences)
J. Carson Smith, Ph.D. University of Georgia - Exercise Science (Human Movement Sciences)
Timothy Patrick, Ph.D. University of Missouri-Columbia (Health Sciences)
Scott J. Strath, Ph.D. University of Tennessee-Knoxville (Human Movement Sciences)
Kathryn Zalewski, Ph.D. University of Wisconsin - Milwaukee (Human Movement Sciences)

Doctor of Philosophy in Health Sciences

Admission

To be considered for admission to the program applicants must satisfy all UWM Graduate School admission requirements in addition to the following College of Health Sciences requirements:

1. Submission of scores on the General Test portion of the Graduate Record Examination; test taken within last five years.
2. Master's degree or equivalent in an area that provides foundational academic preparation in proposed Health Sciences Ph.D. "Area of Concentration."
3. A sample of the applicant's written work that demonstrates his or her ability to conduct research and/or the ability to critically analyze the scholarly work of others.
4. A letter outlining the applicant's academic and professional background, declaration of Area of Concentration and Major Professor as well as specific research interests and goals for the Ph.D. program. This statement should be submitted to the Graduate School and must be complete and thorough as it provides information that is central to the admission decision. This letter will serve in lieu of the Graduate School's "Reasons for Graduate Study" statement.
5. Three letters of recommendation from individuals familiar with the applicant's intellectual achievement and potential. At least two of these letters must be from faculty or senior administrators at academic institutions.

For applicants from countries other than the U.S.A. whose first language is not English, a score of at least 250 on the computer-based (or 600 on the paper-based) Test of English as a Foreign Language (TOEFL) is required. A score of 6.5 on the International English Language Testing Systems (IELTS) examination will be accepted in lieu of the TOEFL.

The PhD Steering Committee will make an admission recommendation and forward it to the appropriate College of Health Sciences departmental Graduate Faculty or Executive Committee and identified Major Professor. The final admission decision is contingent upon approval by the departmental Graduate Faculty Committee or Executive Committee, the applicant's Major Professor, and the Graduate School.

Prior to admission an eligible College of Health Sciences Graduate Faculty member must agree to serve as the applicant's major professor.

Reapplication

A student who has received a master's degree in Clinical Laboratory Sciences, Communication Sciences and Disorders, Kinesiology, or Occupational Therapy from the University of Wisconsin-Milwaukee must formally reapply for admission to the Graduate School before continuing studies toward the Ph.D. degree.

Residence

The student must complete at least half of the graduate credits required for the PhD in residence at UWM in doctoral status. In addition, the student must complete at least 8 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions. In exceptional cases, modifications of the residence requirement may be requested, subject to the approval of the College of Health Sciences PhD Steering Committee and the Graduate School.

Course of Study

The Ph.D. program requires 72 credits beyond the Bachelor's degree, including no more than 36 credits from a related master's degree and/or other post-baccalaureate coursework. A student must complete a minimum of 36 credits at UWM including dissertation credits. Precise numbers of credits and actual course requirements will be determined after review of the applicant's previous coursework. The student plans an individual program of study in consultation with the Major Professor and Doctoral Committee that will include a set of core courses, an area of concentration, cross-disciplinary courses, electives, and the dissertation.

Core Courses (16 credits)

- CL SCI 901: Philosophical Foundations of Health Research (3 credits)
- HUM KIN 702: Multivariate Analysis in the Health Sciences (3 credits)
- CL SCI 910: Advanced Graduate Seminar (1 credit, repeated 4 times)
- OCCTHPY 900: Teaching, Learning & Educational Leadership in the Health Sciences (3 credits)
- A statistical analysis, qualitative analysis, or research methods course approved by the student's Major Professor (3 credits)

Area of Concentration (minimum of 9 credits)

Courses related to the area of concentration will require students to draw upon the strengths and expertise of the faculty and curriculum in an interdisciplinary and collaborative manner. The basis of scientific exploration will be premised on the model adapted by the World Health Organization (WHO) which defines three levels contributing to the concept of health: 1) intact body structures and unimpaired host functions at the molecular, cellular or organ system level, 2) ability to participate in activities and roles at the level of the living organism or individual person, and 3) a physical and social environment that influences health at the level of society and populations.

Cross Disciplinary Courses (minimum of 6 credits)

Cross-disciplinary courses in areas such as disability and rehabilitation, diagnostic and biomedical sciences, human movement sciences, and population health and health administration/policy, will provide a unique framework and understanding for specific health states, outcomes, determinants, and environmental influences. Each of these specialties reflects trends and needs in health-related fields as well as the current expertise among faculty in CHS.

Electives (6 credits)

Elective courses relevant to the student's program of study will be selected from within CHS and from departments across campus. This cross-disciplinary approach will encourage collaboration and interaction, and provide breadth and depth to a student's focused course of study.

Dissertation (minimum of 12 credits)

The last component of the degree requirements, independent research and dissertation, will be structured by the choice of concentration. The dissertation will consist of focused, independent research that contributes to the existing body of knowledge.

Foreign Language

Foreign language coursework is optional, depending upon the recommendation of the student's Major Professor.

Doctoral Committee

In consultation with the Major Professor, each student is responsible for selecting a Doctoral Committee before completing 12 credits in the doctoral program. The doctoral committee shall consist of the student's Major Professor and four other Graduate Faculty including at least one from: 1) the area of concentration; 2), a supporting area within the College; and 3) a supporting area from outside the College. Upon formation of the Doctoral Committee, the student must file a "Doctoral Committee" form with his/her Major Professor which is to be subsequently filed with the CHS - PhD Steering Committee.

Doctoral Preliminary Examinations

The doctoral preliminary examinations must be completed within three years of initial enrollment in the program. Students may receive up to two additional semesters to complete the preliminary examinations with approval of the CHS - PhD Steering Committee. The examinations consist of a written examination designed to demonstrate the breadth of a student.s knowledge and the ability to conduct advanced research, and an oral exam covering issues raised during the written exam and/or focusing on the proposed dissertation research. The oral exam must follow the written exam within 10 days. Students take the preliminary examinations after completing all doctoral course work or with no more than three credits of doctoral course work remaining. Students cannot take the examinations if they have any incomplete or unreported grades or a GPA lower than 3.0. Students who fail the preliminary examinations may not proceed to the dissertation. The examinations may be retaken only once.

Dissertation Proposal

Upon successful completion of the preliminary examinations, the student submits a written dissertation proposal and delivers an oral presentation of the proposed research to the Dissertation Committee. The proposal takes the form of a scholarly document outlining the problem, its background and significance, summarizing relevant literature, and outlining the proposed research methods. It should include a tentative timetable and outline any required resources (space, equipment, etc.). Members of the student.s Dissertation Committee must approve the dissertation proposal. Acceptance of the dissertation proposal establishes an agreement between the student and the Dissertation Committee as to the nature and scope of the research to be conducted, and the procedure for completing the dissertation. Upon Dissertation Committee approval, research proposals that use animal or human subjects must receive approval from the Animal Care and Use Committee or the Institutional Review Board.

Dissertator Status

Specific requirements which must be completed before a doctoral student qualifies for dissertator status are described on the Graduate School Doctoral Requirements page.

Dissertation

The dissertation is a major piece of original research representing a substantial contribution to the existing body of knowledge. The original research findings embodied in the dissertation should be acceptable for publication in a refereed journal. The student's Major Professor

and Dissertation Committee provide guidance in completing the dissertation.

Dissertation Defense

Once the dissertation document meets with Dissertation Committee approval, an oral defense takes place. At the time of the defense, the dissertation must be of publication-quality (as judged by the Dissertation Committee). The dissertation defense will be held in an open forum after which the Dissertation Committee will meet in closed session to make a decision on degree conferral. The time and place of the public presentation must be announced with adequate time (i.e., at least one week prior to the defense) so that faculty and students may attend.

Time Limit

The student must complete all requirements for the degree within seven years of the date of initial enrollment in the program. Upon successfully passing the preliminary examinations, the student must complete all requirements for the degree within four years.

Courses

Courses numbered 300 to 699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

Clinical Lab Sciences (C L SCI)

610 Pharmacology. 3 cr. U/G. Lectures on pharmacokinetics, mechanisms of action, and physiological effects of toxic and therapeutic substances. Prereq: jr st, Chem 501(P), or cons instr

620 Forensic Pathology. 2 cr. U/G. An overview of medicolegal death investigation from the perspective of the forensic pathologist. Prereq: jr st; Bio Sci 203(P)

705 Molecular Pathology. 3 cr. G. Principles, methods, and applications of nucleic acid-based technologies in pathology and laboratory medicine. Counts as repeat of C L Sci 590 with similar topic. Prereq: grad st; cons instr

715 Medical Laboratory Management and Education. 2 cr. G. Introduction to management and education theory and application to the clinical laboratory. Prereq: grad st or cons instr

756 Current Concepts in Leukemia. 4 cr. G. An overview of various forms of human acute and chronic leukemia. Emphasis on cell markers and cytomorphology, clonal etiology and kinetics. Prereq: grad st & cons instr

772 Antimicrobial Agents and Chemotherapy. 3 cr. G. A survey of the effects of antibiotics and chemotherapeutic agents in microorganisms and man. Mode of action, principles of antimicrobial chemotherapy application to basic research. Prereq: lc & la course in medical microbiology; grad st or cons instr

775 Mechanisms of Infectious Disease. 2 cr. G. Review of current molecular and cellular aspects of infectious disease as related to microbial determinants of virulence and the host response. Prereq: lc & la course in medical microbiology; grad st or cons instr

782 Advanced Immunology. 3 cr. G. Cellular basis of the immune response with emphasis on immunoregulation and clinical disease manifestations resulting from altered cellular immune function. Prereq: grad st; course in immunology; cons instr

910 Advanced Seminar in Health Sciences. 1 cr. G. Faculty, students, and guests present research topics in the Health Sciences. Retakable to 4 cr max. Prereq: grad st; cons instr

990 Research and Dissertation. 1-6 cr. G. Preparation of a dissertation under the direction of the student's primary and secondary advisors. Prereq: grad st; cons instr

Communication Sciences and Disorders (COMSDIS)

630 Communication Disorders in Multicultural Populations. 2 cr. U/G. Application of theoretical models and research perspectives to the assessment and treatment of communication disorders in children from multicultural populations. Prereq: sr st; cons instr

660 School-Age Language. 2 cr. U/G. Language disorders in older children and adolescents; application of developmental theory to assessment and intervention. Prereq: sr st; cons instr

670 (521) Advanced Procedures in Audiology. 3 cr. U/G. Masking, speech audiometry, acoustic immittance testing, differential diagnosis, audiological screening design, development and implementation, special pediatric and geriatric concerns; audiologic counseling and hearing aid orientation. Prereq: sr st; ComSDis 470(P); cons instr

690 Cognitive Communication Disorders in Adults. 2 cr. U/G. Communication disorders related to traumatic brain injury and dementia in adults. Emphasis on neuropathology, symptomatology, assessment, and management. Prereq: sr st, ComSDis 460, and cons instr; or grad st.

701 Research Design and Methods in Communication Sciences and Disorders. 3 cr. G. Introduction to design and implementation of quantitative research, including selection of research topics, literature searches, developing research hypotheses, hypothesis testing, and presentation of findings. Prereq: grad st; cons instr

702 Clinical Phonology and Articulation. 2 cr. G. Study of normal and disordered aspects of articulation and phonology. Emphasis on theoretical and practical considerations for clinical assessment and treatment. Prereq: grad st; cons instr

703 Voice Disorders. 2 cr. G. Diagnosis and treatment of hyperfunctional disorders, psychogenic voice disorders, organic diseases of the larynx, neurogenic voice disorders, cleft palate and resonance disorders, and alaryngeal speech. Prereq: grad st; cons instr

704 Speech Fluency and Stuttering. 3 cr. G. Theory and research related to the nature and treatment of stuttering. Discussion of factors important to the clinical management of fluency in children and adults. Prereq: grad st; cons instr

705 Aphasia in Adults. 3 cr. G. Nature of aphasia and related communication disorders. Study of pertinent diagnostic and prognostic techniques and therapeutic procedures. Prereq: grad st; cons instr

706 Language Assessment and Intervention in Children: Birth to 5 Years. 2 cr. G. Application of various theoretical models and research perspectives to the assessment and treatment of children with language impairments. Prereq: grad st; cons instr

709 Evaluation and Management of Swallowing Disorders. 3 cr. G. Study of normal and abnormal swallowing across the lifespan, with emphasis on etiologies, clinical and instrumental evaluation techniques, and management. Prereq: grad st; ComSDis 705(P); cons instr

710 Motor Speech Disorders. 3 cr. G. Basic neurological substrates of the dysarthrias and apraxia, differential diagnosis and treatment of acquired and developmental communication disorders associated with apraxia and dysarthria. Prereq: grad st; ComSDis 703(P) & 705(P)

711 (801) Applied Speech Science. 3 cr. G. Advanced study of physiological, acoustical, and perceptual perspectives of normal and abnormal speech production mechanisms; laboratory experience with speech science instrumentation for research/clinical application. Counts as repeat of ComSDis 801. Prereq: grad st; cons instr

715 (680) Assessment and Intervention in Augmentative and Alternative Communication. 3 cr. G. Application of current research in augmentative and alternative communication (AAC) for assessment, prescription of AAC systems, and intervention planning for individuals with severe communication disorders. Prereq: grad st; cons instr

717 Special Populations in Communication Disorders. 2 cr. G. Seminar reviewing the current literature on selected populations of individuals with communication disorders and the implications of this literature on clinical practice. Prereq: grad st

728 (908) Instrumentation Laboratory. 1 cr. G. Hands-on experience with speech science instrumentation for acoustic analysis of voice, prosody, and nasal resonance. Counts as repeat of ComSDis 908. Prereq: grad st; Com SDis 801(P) & conc reg in ComSDis 902 (voice clinic) or cons instr

799 Independent Studies. 1-3 cr. G. Independent pursuit of a creative project designed by the student and supervised by a faculty or instructional academic staff member. Prereq: grad st; cons grad advisor.

802 Seminar in Applied Phonology: (Subtitled). 1 cr. G. Specific topic and any additional prerequisites announced in the Timetable each time the course is offered. May be repeated w/chg in topic to 7 cr max. Prereq: grad st; cons instr

804 Seminar in Stuttering and Fluency: (Subtitled). 1 cr. G. Specific topic and any additional prerequisites announced in the Timetable each time the course is offered. May be repeated w/chg in topic to 7 cr max. Prereq: grad st; cons instr

Health Care Administration (HCA)

700 Introduction to Health Care Informatics. 2 cr. G. An introduction to the history, theory, applications, and organizational context of health informatics. Prereq: grad st or cons instr

721 Health Information Technology Procurement. 2 cr. G. A study of the concepts related to acquisition of information technology, including evaluation, selection, and contracts. Emphasis on integration of information technology and strategic planning. Prereq: grad st; Bus Adm 749(C) or CompSci 557(C) or HIA 442(C) or cons instr

723 Health Care Systems Applications - Administrative and Clinical. 3 cr. G. A study of the administrative and clinical applications of health information systems with emphasis on content, functional and technical requirements. Prereq: grad st; Bus Adm 749(C) or CompSci 557(C) or HIA 442(C) or cons instr

Human Movement Sciences (HUM KIN)

702 Statistical Analysis in the Health Sciences. 3 cr. G. Univariate, bivariate, and multivariate analyses as they apply to health science research. Prereq: grad st; intro level statistics course at U/G or G level

725 Interdisciplinary Themes in Biomechanics. 3 cr. G. Emphasis on biomechanical research themes of an interdisciplinary character. Readings drawn from primary research literature. Prereq: grad st; Hum Kin 520(P) or cons instr

730 Advanced Metabolic/Endocrine Physiology of Exercise. 3 cr. G. Study of muscle function, fuel utilization, endocrine function and temperature regulation during exercise and training. Prereq: grad st; Hum Kin 530

731 Advanced Cardiorespiratory Physiology of Exercise. 3 cr. G. Examination of selected mechanisms regulating cardiovascular and pulmonary adjustments to acute and chronic exercise. Prereq: grad st; Hum Kin 330; Hum Kin 530(R) & Bio Sci 715(R)

761 Concepts of Human Motor Control. 3 cr. G. A systematic examination of neuromotor control mechanisms and critical review of research in human motor behavior focusing on variables limiting or facilitating performance and/or skill acquisition. Prereq: grad st, Hum Kin 561(P) or cons instr

762 Research Practicum in Motor Control. 3 cr. G. Demonstration/participation laboratory focused on human motor control experimental design. Topics include sampling, subject protection, techniques for quantification of motor performance characteristics and neuromuscular correlates. Prereq: grad st; Hum Kin 561(P) or cons instr

799 Independent Reading. 1-3 cr. G. Independent study of a topic selected by the student in consultation with the supervising graduate faculty member. May be repeated with change in topic to max of 6 cr. Prereq: grad st; cons instr

822 Biomechanics Research Practicum. 3 cr. G. Addresses research design issues, data collection and reduction techniques. Validity, reliability, and theory of biomechanics instrumentation systems (videography, cinematography, electromyography, force/torque transduction). Prereq: grad st; Hum Kin 725(P) or cons instr

850 Seminar in Psychological Aspects of Physical Activity: (Subtitled). 3 cr. G. Advanced seminar on selected topics in the psychology of physical activity. May be repeated with change in topic to max of 6 cr. Prereq: grad st; Hum Kin 550(P) or cons instr

851 Psychological Factors in Preventive and Rehabilitative Exercise. 3 cr. G. Advanced seminar in exercise psychology. Personal and social psychological factors relevant to preventive and rehabilitative exercise contexts are examined. Prereq: grad st; Hum Kin 550(P) or cons instr

860 Seminar in Motor Control: (Subtitled). 3-6 cr. G. Advanced seminar on selected topics related to motor control and acquisition of movement skill. May be repeated with change of topic to max of 6 cr. Prereq: grad st; Hum Kin 761(P); cons instr

870 Seminar in Sociological Aspects of Physical Activity: (Subtitled). 3 cr. G. Advanced seminar on selected topics in sociology of physical activity. May be repeated with change in topic to max of 6 cr. Prereq: grad st; Hum Kin 570(P) or cons instr

871 Socialization and Physical Activity. 3 cr. G. Advanced seminar on research relevant to the development/lack of development of physically active lifestyles. Prereq: grad st; Hum Kin 870(P) or cons instr

888 Candidate for Degree. 0 cr. G. Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st

891 Research Seminar. 3 cr. G. Advanced seminar on the synthesis and critique of research literature within the student's primary and secondary subdisciplines. Not open to option A students. Prereq: grad st; completion of all or conc reg in remaining coursework for degree

930 Practicum and Seminar in Exercise Physiology. 3 cr. G. Evaluation of current research and methodology in exercise physiology. Prereq: grad st; Hum Kin 730 or 731

990 Research and Thesis. 1-6 cr. G. Preparation of a thesis under the direction of the student's primary and secondary advisors. May be repeated to max of 6 cr. Not open to students selecting options B or C. Prereq: grad st

Occupational Therapy (OCCTHPY)

701 Advanced Application of Instrumentation Theory in Health Care. 3 cr. G. Reviews and critiques measurement theories and instruments used by health related researchers and professionals. Includes traditional, outcome and contemporary methods differing from classical psychometric theory. Prereq: grad st.

702 Research in Occupational Therapy. 3 cr. G. Study of research design pertinent to various areas of clinical practice in occupational therapy. Development of literature review and hypothesis for project/thesis. Prereq: grad st; Occthpy 701(P); Quantitative & Qualitative Research courses or equiv; cons instr

720 Advanced Application of Occupational Therapy Theory. 3 cr. G. Critical analysis of occupational therapy theories as they relate to practice issues, strategies, and research. Prereq: grad st

730 Industrial Rehabilitation. 3 cr. G. Examines current practices and future trends in the prevention and management of work-related disorders within the context of industry. Prereq: grad st

740 Advanced Topics in Pediatric Occupational Therapy Practice. 3 cr. G. Examines current practices and future trends for evaluation and treatment of occupational performance between birth and 21 years of age within family and community contexts. Prereq: grad st

741 Research Seminar. 1 cr. G. Scholarly discussion forum for graduate students completing their thesis/project. Prereq: grad st; OccThpy 890(C) or 990(C) or cons instr.

750 Computer Applications in Occupational Therapy Practice. 3 cr. G. Exploration of the current and future uses of computer technology in the field of occupational therapy. Completion of a student-designed software application. Prereq: grad st

760 Assistive and Rehabilitation Technology. 3 cr. G. Surveys the use of assistive technology devices and applications for people with motor, sensory, and cognitive impairments. Prereq: grad st; college-level computer course or equiv or cons instr

777 Fieldwork in Assistive Technology. 1-6 cr. G. Provides students with a school-orclinic-based experience in the elivery of assistive technology services. ExcEduc 777 & OccThpy 777 are jointly offfered; they count as repeats of one another. May be retaken for 9 cr max. Prereq: grad st & cons instr

780 Physical Agents in Rehabilitation. 3 cr. G. Application of physical agents to restore functional abilities in a rehabilitation setting; includes review of research literature and competency testing. Prereq: grad st

786 Applied Biostatistics in Ergonomics. 3 cr. G. Statistical methods used in ergonomic studies to analyze, summarize, and report measurements and data. 2 hr lec & 2 hr lab/week. Jointly offered with & counts as repeat of Nurs 786 & Ind Eng 786. Prereq: grad st; Ind Eng 580; a course in statistics or cons instr

787 Issues in Ergonomics: Epidemiology. 1 cr. G. Concepts in epidemiological studies employed to study risk factors in ergonomic research. Design considerations, strengths and weaknesses of different types of studies. Jointly offered with & counts as repeat of Nurs 787 & Ind Eng 787. Prereq: grad st; Ind Eng 580; a course in statistics or cons instr

788 Legal Issues and Regulatory Agencies in Ergonomics. 1 cr. G. Understanding of ergonomic regulations, regulatory sets, and agencies' and workers' compensations laws. Jointly offered with & counts as repeat of Nurs 788 & Ind Eng 788. Prereq: grad st; Ind Eng 580(P); a course in statistics or cons instr

790 Design Project. 2-3 cr. G. Integration and application of concepts learned in other ergonomic courses to analyze and abate ergonomic hazards in a scientific manner. Jointly offered with & counts as repeat of Nurs 790 & Ind Eng 790. Prereq: grad st; Ind Eng 780(P), 783(P), 786(P), 788(P) or cons instr

880 (890) Master's Project. 1-6 cr. G. Preparation of an individual project under the supervision of the student's major advisor. Prereq: grad st; cons advisor.

900 Teaching, Learning and Educational Leadership in the Health Sciences. 3 cr. G. Overview of higher education in the health sciences and the responsibilities of the professoriate in fulfilling the missions of research, teaching, and service. Prereq: grad st.

990 Research and Thesis. 1-6 cr. G. Production of a thesis under the supervision of the student's major professor with the consultation of the degree committee. Prereq: grad st; cons advisor.

999 Advanced Independent Study. 1-3 cr. G. Supervised investigation of particular topic area either not covered by other occupational therapy courses or at a level of sopistication beyond that in a course. Prereq: grad st; cons instr.

HISTORY

- Phone: (414) 229-4361
- E-mail: history@uwm.edu

School/College: College of Letters and Science

Degrees Conferred:

- MA in History
- PhD in History

Overview

The Department of History offers M.A. and Ph.D. programs that prepare students for careers in teaching, in historical research, and in archives, historical agencies, museums, libraries and government. The Department offers a wide array of geographically, chronologically and thematically defined courses.

At the master's level, the Department offers four options: (a) a general degree in History; (b) a specialization in Public History for those interested in areas such as museum work, archival administration and historic preservation; (c) a coordinated Master of Arts/Master of Library and Information Science degree program; (d) a specialization in Urban Historical Studies for students who intend to pursue a Ph.D. in Urban Studies or in Urban History.

At the doctoral level, the Department offers three areas of concentration: Modern Studies, Global History and Urban History.

The Department also participates in the interdisciplinary master's and doctoral programs in Urban Studies. For more information, see the Urban Studies page.

Graduate Faculty

Distinguished Professors

Hoeveler, J. David, Jr., Ph.D., University of Illinois
Wiesner-Hanks, Merry E., Ph.D., University of Wisconsin-Madison

Professors

Anderson, Margo J., Ph.D., Rutgers University
Fetter, Bruce S., Ph.D., University of Wisconsin-Madison
Howland, Douglas, Ph.D., University of Chicago, Chair
Jeansonne, Glen, Ph.D., Florida State University
Levine, Marc V., Ph.D., University of Pennsylvania
Merrick, Jeffrey, Ph.D., Yale University
Meyer, Stephen, Ph.D., Rutgers University
Pycior, Helena M., Ph.D., Cornell University
Ruggiero, Kristin, Ph.D., Indiana University
Schroeder, John H., Ph.D., University of Virginia
Shashko, Philip, Ph.D., University of Michigan
Sherman, Daniel, Ph.D., Yale University

Associate Professors

Austin, Joe, Ph.D., University of Minnesota
Buff, Rachel, Ph.D., University of Minnesota
Carlin, Martha, Ph.D., University of Toronto
Galvao-Sobrinho, Carlos, Ph.D., Yale University
Gordon, Michael A., Ph.D., University of Rochester
Hansen, Anne, Ph.D., Harvard University
McBride, Genevieve, Ph.D., University of Wisconsin - Madison
Pease, Neal H., Ph.D., Yale University
Renda, Lex, Ph.D., University of Virginia
Rodriguez, Joseph A., Ph.D., University of California-Berkeley
Seligman, Amanda, Ph.D., Northwestern University

Assistant Professors

Alinder, Jasmine, Ph.D., University of Michigan
Amster, Ellen, Ph.D., University of Pennsylvania
Carter, Greg, Ph.D., University of Texas
Chu, Winson, Ph.D., University of Califronia-Berkeley
McGuinness, Aims, Ph.D., University of Michigan
Miller, Cary, Ph.D., University of North Carolina
Silverman, Lisa, Ph.D., Yale University
Vang, Chia, Ph.D., University of Minnesota

Master of Arts in History

Admission

To be considered for admission, an applicant must meet Graduate School requirements, have an undergraduate minor or 18 credits in History or equivalent preparation, and submit the following materials listed below.

Submit the following to: Admissions, UW-Milwaukee Graduate School, P.O. Box 340, Milwaukee, WI 53201:

1. Completed Graduate School Application for Admission and required application fee.

2. Two official transcripts from each academic institution the applicant has attended.

3. A statement of purpose outlining the applicant's reasons for graduate study in History.

Send the following directly to the Director of Graduate Studies, UW-Milwaukee History Department, P.O. Box 413, Milwaukee, WI 53201:

1. Two letter of recommendation from persons familiar with the applicant's scholastic achievement and potential
2. A sample of the applicant's written work that demonstrates his or her ability to conduct historical research and/or the ability to analyze critically the work of others.
3. Scores on the Graduate Record Examination (General Test only).

Applicants may be admitted with course deficiencies provided that the deficiencies amount to no more than two courses. The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted toward the degree.

Advising

The Director of Graduate Studies provides initial advising for students in selecting courses and assists in selecting a Major Professor for long-term advising; the Director may assign a provisional graduate advisor before students select a Major Professor. Students are required to consult periodically with, and have their schedules approved by, the Director of Graduate Studies, the provisional advisor, or the Major Professor. The Major Professor normally serves as the chair of the student's academic review and supervises either the writing of the student's thesis or the student's reading for the comprehensive exam.

General History Option A: Thesis Option

Credits and Courses

Minimum degree requirement is 24 graduate credits, at least 21 of which must be taken in history. Required credit distribution: 3 credits in 712(Historiography and Theory of History) or 713 (Historical Research Methods); 6 credits in two colloquia; 6 credits in two seminars; 6 credits for thesis; remaining 3 credits in electives selected in consultation with the student's advisor. Students may take 3 credits of either Hist 716 (Professional and Pedagogical Issues in History) or Hist 717 (History and the New Media) as a substitute for 3 credits in one colloquium.

Academic Review and Thesis Prospectus

Within the first semester after completing 9 credits (including two of the following courses: 712, 713, a colloquium and/or seminar), Option A students are subject to an academic review. The Review is a one- to two-hour meeting involving the student, the student's Major Professor and two other members of the History Graduate Faculty who will serve as

secondary readers of the student's thesis. With the assistance of his or her Major Professor, the student must prepare a thesis prospectus in advance of the Review. The Review involves an evaluation of the student's academic progress in master's course work, two unrevised course papers, and the thesis prospectus.

Thesis

The student must write an acceptable thesis.

Thesis Defense

The student must pass an oral examination in defense of the thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

General History Option B: Non-Thesis Option

Credits and Courses

Minimum degree requirement is 24 graduate credits, 18 of which must be taken in History. Required credit distribution: 3 credits in 712 (Historiography and Theory of History) or 713 (Historical Research Methods); 6 credits in two colloquia (800 numbers); 6 credits in two seminars (900 numbers); 9 credits in electives selected in consultation with the student's advisor. Students may take 3 credits of either Hist 716 (Professional and Pedagogical Issues in History) or Hist 717 (History and the New Media) as a substitute for 3 credits in one colloquium.

Academic Review and Comprehensive Examination Reading List

Within the first semester after completing 9 credits (including two of the following courses: 712, 713, a colloquium and/or seminar), Option B students are subject to an academic review. The Review is a one- to two-hour meeting involving the student, the student's Major Professor and two other members of the History Graduate Faculty who will serve as examiners for the student's comprehensive exam. With the assistance of his or her Major Professor, the student must prepare a reading list for the comprehensive exam in advance of the Review. The Review involves an evaluation of the student's academic progress in master's course work, two unrevised course papers, and the reading list for the comprehensive exam.

Thesis

Not required.

Comprehensive Examination

The student must pass a written and oral comprehensive examination.

Time Limit

The student must complete all degree requirements within five years of initial enrollment

Public History Specialization

Credits and Courses

Minimum degree requirement is 36 graduate credits, 18 of which must be taken in general history courses, the remaining 18 in public history courses. The 18 credits in general history must be distributed in the following way: 6 credits in colloquia, 6 credits in seminars, 3 credits in History 715 (Research Methods in Local History), and 3 credits in electives. Students may take 3 credits of either Hist 716 (Professional and Pedagogical Issues in History) or Hist 717 (History and the New Media) as a substitute for 3 credits in one colloquium.

Of the 18 credits in public history courses, the following 9 credits are required: 3 credits in History 700 (Introduction to Public History) and either 6 credits in History 701 (Internship in Public History) or 6 thesis credits (to be taken by students in the thesis track; see tracks below). Public history students must take History 700 in the first semester of their first year. The remaining 9 credits in public history must be selected from courses that pertain to the area in which the student wishes to specialize.

Students must select from one of the following tracks: museum studies, archives, historic preservation, or thesis.

Museum Studies Track

Students in Museum Studies must account for the 3 elective credits in general history and the 9 elective credits in Public History by taking the Anthropology four-course museum sequence, Anthro 720 (History and Theory of Museums), 721 (Administration and Organization of Museums), 722 (Museum Exhibits), and 723 (Museum Curation).

Archives Track

For students interested in careers as archivists, the 9 credits of electives should be selected from the following courses:

- L&I Sci 681 Introduction to Modern Archives Administration, 3 cr
- L&I Sci 775 Modern Archives Administration, 3 cr
- L&I Sci 777 Seminar in Modern Archves Administration, 3 cr
- L&I Sci 778 Archival Outreach: Programs and Services, 3 cr
- L&I Sci 779 Arrangement and Description in Archives, 3 cr
- L&I Sci 790 Fieldwork in Archives and Manuscripts, 3 cr

Historic Preservation Track

For students interested in careers in historic preservation, the 9 credits of electives in public history should be selected from the following courses:

- ArtHist 459 American Architecture
- ArtHist 461 Early Modern Architecture in the Midwest
- ArtHist 701 Colloquium in Architectural History
- Arch 531 Historic Concepts of Architecture
- Arch 551 American Vernacular Architecture
- Arch 560 Introduction to Historic Preservation
- Arch 760 History of Building Technology

Within the historic preservation track, students may elect to complete a multi-disciplinary historical preservation option. For this option, the minimum degree requirement is 48 graduate credits, 24 of which must be in history courses, with the remaining 24 selected from historic preservation courses in Art History and Architecture.

The 24 credits in history must be distributed as follows: 6 credits in colloquia, 6 credits in seminars, 3 credits in History 700 (Introduction to Public History), 3 credits in History 715 (Research Methods in Local History), and 6 credits in History 701 (Internship in Public History). Students may take 3 credits of either Hist 716 (Professional and Pedagogical Issues in History) or Hist 717 (History and the New Media) as a substitute for 3 credits in one colloquium.

Of the 24 credits in historic preservation courses, 12 credits are required:

- Arch 300 Early Modern Architecture in the Midwest, 3 credits;
- Arch 531 Historical Concepts of Architecture, 3 credits;
- Arch 551 American Vernacular Architecture, 3 credits;
- Arch 560 Introduction to Historic Preservation, 3 credits.

The remaining 12 credits must be selected from the following courses:

- ArtHist 441 Early Modern Architecture in the Midwest, 3 credits;
- ArtHist 459 American Architecture, 3 credits;
- ArtHist 701 Colloquium in Architectural History: (Subtitle), 3 credits

- Arch 533 Topics in Architectural Theory, 3 credits;
- Arch 561 Measured Drawing for Architects, 3 credits;
- Arch 562 Preservation Technology Laboratory, 3 credits.

Thesis Track

Students in the thesis track write a thesis in public history instead of pursuing an internship. Students are required to take 6 thesis credits instead of 6 credits in Hist 701, and they are required to take 9 credits in interdisciplinary courses in the humanities and/or social sciences that focus on culture and politics in public history instead of 9 credits in specialized professional courses.

The following are recommended interdisciplinary courses (others may be chosen with the approval of the Public History coordinators):

Anthropology
- **349** Seminar in Ethnography and Cultural Processes, 3 cr
- **803** Survey of Cultural Anthropology, 3 cr

Architecture
- **302** Architecture and Human Behavior, 3 cr

Art History
- **363** Modern Sculpture, 3 cr
- **458** Comparative History of Architecture and Urbanism, 3 cr
- **901** Problems in Art History, 3 cr

English
- **630** Seminar in Literature and the Other Arts, 3 cr
- **741** Backgrounds of Modernism II, 3 cr
- **741** Mass Culture, 3 cr
- **885** Seminar in Critical Theory, 3 cr

Film
- **420** Documentary Film, 3 cr

Journalism and Mass Communication
- **560** History of Mass Media, 3 cr
- **562** Media Studies and Culture, 3 cr
- **815** Mass Media and Cultural Studies, 3 cr

Library and Information Sciences
- **550** Introduction to Information Science, 3 cr
- **615** Information and Records Management, 3 cr
- **681** Using Archives, 3 cr

Political Science
- **789** Theory and Role of Nonprofit Organizations, 3 cr

Sociology
- **700** Sociological Inquiry, 3 cr
- **927** Seminar in Sociology of Contemporary Institutions, 3 cr
- **928** Seminar in Social Organization, 3 cr

Urban Studies
- **921** Research Methods in Urban Affairs, 3 cr

Within the first semester after completing 9 credits (including two of the following courses: Hist 700, Hist 715, a colloquium, and/or a seminar), public history students who choose to write a thesis are subject to an academic review. The review is a one- to two-hour meeting involving the student, the student's major professor, and two other members of the History Graduate Faculty who will serve as secondary readers of the student's thesis. With the assistance of his or her major professor, the student must prepare a thesis prospectus in advance of the review. The review involves an evaluation of the student's academic progress in master's course work, two unrevised course papers, and the thesis prospectus.

Internship

All internships must be approved by the Public History Coordinator and are to be supervised and evaluated by the Coordinator and the host institution. All students must write a substantial paper as a part of their internship experience.

Thesis Option for Students in Non-Thesis Tracks

A thesis is not required for students in the museum studies, archives, and historical preservation tracks, but with the approval of the Public History Coordinator these students may write a thesis in public history, which will add 6 credits to the 36-credit Public History specialization. Public History students who write a thesis are subject to the Academic Review and Thesis Prospectus requirements outlined above for the General History Option A.

Comprehensive Examination

Not required.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Coordinated MA/MLIS Program

Students in this program concurrently pursue a Master of Arts in History and a Master of Library and Information Science degree, which are awarded simultaneously.

Credits and Courses

Within the coordinated degree program, the minimum requirement for the M.A. in History is 24 graduate credits. Course distribution requirements are the same as those for General History Option A or Option B above, but the 3 elective credits for Option A and 6 of the elective credits for Option B can be selected from L&I Sci 681 (Introduction to Modern Archives Administration), L&I Sci 777 (Seminar in Modern Archives Administration), L&S Sci 778 (Archival Outreach: Programs and Services), L&S Sci 779 (Arrangement and Description in Archives), and L&I Sci 790 (Fieldwork in Archives and Manuscripts). These elective credits also can be used to satisfy degree requirements for the MLIS. For both Option A and Option B, at least 18 credits must be taken in History graduate courses.

Academic Review and Comprehensive Examination Reading List (Option B)

Within the first semester after completing 9 credits (including two of the following courses: 712, 713, a colloquium and/or seminar), MA/MLIS students are subject to an academic review. The Review is a one- to two-hour meeting involving the student, the student's Major Professor, and two other members of the History Graduate Faculty who will serve as examiners for the student's comprehensive exam. With the assistance of his or her Major Professor, the student must prepare a reading list for the comprehensive exam in advance of the Review. The Review involves an evaluation of the student's academic progress in master's course work, two unrevised course papers, and the reading list for the comprehensive exam.

Comprehensive Examination

The student must pass a written and oral comprehensive examination.

Thesis (Option A)

Not required, but with the approval of the Director of Graduate Studies in History, the student may substitute a thesis for the comprehensive examination requirement. MA/MLIS students who write a thesis are subject to the Academic Review and Thesis Prospectus requirements outlined above for Option A.

Time Limit

The student must complete all requirements for the coordinated degree within seven years of initial enrollment.

Urban Historical Studies Specialization

This specialization combines historic approaches with those of the social sciences in studying urban processes, organizations, and society. It is designed to meet the needs of students who intend to enter the interdisciplinary Urban Studies PhD program or a similar program after completion of the Master of Arts degree.

Credit and Courses

The minimum degree requirement is 27 graduate credits distributed in the following manner:

- Hist 712 Historiography and Theory of History, 3 cr, OR Hist 713 Historical Research Methods, 3 cr;
- Hist 595 The Quantitative Analysis of Historical Data, 3 cr;
- History colloquia (two courses, 800 numbers), 6 cr;
- Students may take 3 credits of either Hist 716 (Professional and Pedagogical Issues in History) or Hist 717 (History and the New Media) as a substitute for 3 credits in one colloquium.
- History seminars (two courses, including Hist 927 Seminar in American Urban History), 6 cr.

9 credits (3 courses) in urban studies graduate courses to familiarize students with the following:

Contemporary urban social theory - select one course from:

- Sociol 770 Urban Sociology
- Sociol 775 Social Change and Social Evolution
- UrbStd 911 Urban Development and Redevelopment
- UrbStd 945 The Internal Structure of the City

Social science research methods - select one course from:

- Sociol 750 Research Methods in Sociology
- UrbStd 734 Urban Demography
- UrbStd 921 Research Methods in Urban Affairs

Urban studies research seminar:

- Select an appropriate Urban Studies seminar from numbers 900 to 971
- OR Sociol 927 Seminar in the Sociology of Contemporary Institutions

Academic Review and Comprehensive Examination Reading List

Within the first semester after completing 9 credits (including two of the following courses: 712, 713, a colloquium and/or seminar), Urban Historical Studies students are subject to an academic review. The Review is a one- to two-hour meeting involving the student, the student's Major Professor and two other members of the History Graduate Faculty who will serve as examiners for the student's comprehensive exam. With the assistance of his or her Major Professor, the student must prepare a reading list for the comprehensive exam in advance of the Review. The Review involves an evaluation of the student's academic progress in master's course work, two unrevised course papers, and the reading list for the comprehensive exam.

Thesis

Not required

Comprehensive Examination

The student must pass a written and oral comprehensive examination.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in History

Admission

To be considered for admission, an applicant must meet Graduate School admission requirements, hold a master's degree in history or a related field, and submit the materials listed below.

Submit the following to: UW-Milwaukee Graduate School, P.O. Box 340, Milwaukee, WI 53201.

1. Completed Graduate School Application and Application Fee.

2. Two official transcripts from each academic institution the applicant has attended.

3. A statement of purpose outlining the applicant's reasons for graduate study in History. In this statement the applicant should identify which of the three areas of concentration she/he would like to study - Global, Urban, or Modern-and also discuss at some length the historiographical issues about this area that are especially interesting to her/him.

Send the following directly to the Director of Graduate Studies, UW-Milwaukee History Department, P.O. Box 413, Milwaukee, WI 53201

1. Three letters of recommendation from persons familiar with the applicant's intellectual achievement and potential.

2. A sample of the applicant's written work that demonstrates his or her ability to conduct historical research and/or the ability to analyze the work of others critically.

3. Scores of the Graduate Record Examination.

Course of Study

To earn the Ph.D., a student must have accumulated at least 54 graduate credits, at least 30 of them taken at the post-master's level. (Precise numbers of credits and actual course requirements while in Ph.D. status will be determined after a review of the applicant's previous coursework.) Doctoral students may not accumulate more than 6 credits in U/G courses, nor more than 6 credits in independent study without the approval of the Director of Graduate Studies. Of the 54 credits, at least 9 must be in fields other than history. No more than 18 credits in courses outside of History may be counted toward the doctoral degree.

Doctoral Concentration

Students applying to the History doctoral program must indicate their preference for one of the following doctoral concentrations: Modern Studies, Global History, Urban History. A doctoral student may change concentrations after admission only with the approval of the Director of Graduate Studies. The following list of courses includes those taken at both the master's and doctoral level; with the approval of the Director of Graduate Studies, some of these requirements may be met by work from previous institutions.

Courses Required For All Concentrations

All students must take three method courses selected from the following, at least one of which must be Hist 712 or Hist 713:

- Hist 712 Historiography and Theory of History, 3 credits
- Hist 713 Historical Research Methods, 3 credits
- Hist 715 Research Methods in Local History, 3 credits
- Hist 716 Professional and Pedagogical Issues in History, 3 credits
- Hist 717 History and the New Media, 3 credits

All students must also take History 990, Dissertation Research (6 credits minimum), and 12 credits of electives (may include additional dissertation credits).

Modern Studies Concentration

Modern Studies focuses on the modern period of world history and on the application of current theoretical and interdisciplinary perspectives for the study of the modern period and of "modernity" itself. Typically, scholarship in this category may appropriate concepts and methodologies from other academic fields, and may involve literary theory, feminism and gender critique, traditions of the avant-garde, cultural studies, Marxism, neoconservatism, modern and postmodern art and architecture, film, media studies, and theories of post-industrial society. Students in the Modern Studies concentration are encouraged to participate in the university's Center for 21st Century Studies and its thematic programs that explore contemporary cultural and social phenomena, and to consider taking elective courses in the English Department's Modern Studies Concentration.

Those choosing this concentration must take English/History/MAFLL 740 or 741, Backgrounds of Modernism I or II (3 credits), and colloquia and seminars in modern history, and other appropriate seminars and colloquia in Modern Studies and related disciplines (21 credits).

Global History Concentration

Global history focuses on the study of phenomena that transcend single nations or regions, including the environment, religion, ideology, labor, migration/diaspora, war, peace, industrialization, colonialism and imperialism, social movements and political conflicts, slavery, class, women, gender, science and technology, popular culture, trade and finance, demography, politics, nationalism, and international relations. Students in Global History may emphasize African, Asian, European, Latin American, Middle Eastern, or United States history in a global context, analyzing historical issues within localities, regions, and nation-states, or concentrate on transnational dynamics and phenomena. In their inquiries, they will often cross geographic, disciplinary and conceptional boundaries, question or perhaps challenge existing regional or chronological frameworks, and develop new approaches to understanding global developments and interactions.

Those choosing this concentration must take History 839, Approaches to Global History (3 credits), and colloquia and seminars in Global History, and other appropriate seminars and colloquia in history and related disciplines (21 credits).

Urban History Concentration

Urban history is the study of urban areas, including cities, suburbs, and metropolitan regions around the world and throughout recorded human existence. Students of urban history examine all aspects of urban life. They study how the physical landscapes and social structures of urban areas have been produced and have changed over time. They examine how people respond to the problems and opportunities that arise in urban contexts, and they study the cultural activities that take place in urban areas. The evidence and sources on which urban historians draw are diverse. They include quantitative documents produced by government and other research entities; the records of the proceedings of municipal entities, voluntary, religious and political organizations; manuscript collections from private organizations and individuals, oral interviews, and reports from the media such as newspaper collections.

Those choosing this concentration must take History/Urban Studies 980, Growth of Urban Society (3 credits), and colloquia and seminars in Urban History, and other appropriate seminars and colloquia in History and related disciplines (21 credits).

Advising

The Director of Graduate Studies provides initial advising for the student in selecting courses and assists in selecting a Major Professor for long-term advising; the Director may assign a provisional graduate advisor before students select a Major Professor.

Students are required to consult periodically with, and have their schedules approved by, the Director of Graduate Studies, the provisional advisor, or the Major Professor. The Major Professor helps the student to define a dissertation topic and assists the student in choosing appropriate courses and in selecting members of the student's Preliminary Examination and Doctoral Committees. The Major Professor normally chairs the student's Preliminary Examination and Doctoral Committees.

Foreign Language or Data Analysis Proficiency

Students must demonstrate proficiency in one or more relevant foreign languages by passing a written examination in the translation of source materials or historical analysis. If a student's Major Professor considers proficiency in more than one language necessary to the student's specific plan of study, exams in more than one language may be required.

With the approval of the Major Professor, a student may substitute proficiency in another skill relevant to historical study; in these cases, proficiency will be demonstrated through relevant course work.

Minor

Students are not required to elect a minor field, but they may wish to supplement their concentration in this way. Depending on the particular course array, students may need to take more than 54 credits to complete both the major and minor requirements. Those who wish to take a minor have three options:

Option A: Minor in one field

Working with a minor professor, students take 8-12 credits in a single department, leading to a minor examination.

Option B: Interdisciplinary Minor

Students take 8-12 credits in two or more departments, selected for their relevance to the student's area of concentration. The minor will be defined in consultation with the student's Major Professor and the Director of Graduate Studies.

Option C: Minor in Public History

This 21-credit minor is appropriate for students planning a career in archives, museums, historic preservation, or other related specialties. It is not available to students who already have a specialization or degree in public history at the master's level. Students in this minor are required to take 12 credits as follows:

- History 700 Introduction to Public History, 3 credits
- History 701 Internship in Public History, 6 credits
- History 715 Research Methods in Local History, 3 credits

Students must take History 700 in the first semester of their first year. The remaining 9 credits in public history must be selected from courses that pertain to the area of public history in which the student wishes to specialize.

For students interested in careers as archivists, electives should be selected from the following courses:

- L&I Sci 681 Using Archives: The Value of Primary Sources in the Information Age, 3 credits
- L&I Sci 775 Modern Archives Administration, 3 credits
- L&I Sci 777 Seminar in Modern Archives Administration, 3 credits
- L&I Sci 778 Archival Outreach: Programs and Services, 3 credits
- L&I Sci 779 Arrangement and Description in Archives, 3 credits
- L&I Sci 790 Fieldwork in Archives and Manuscripts, 3 credits

Students interested in careers in museums are advised to take at least three of the following courses:

- Anthro 720 History and Theory of Museums, 3 credits
- Anthro 721 Administration and Organization of Museums, 3 credits
- Anthro 722 Museum Exhibits, 3 credits
- Anthro 723 Museum Curation, 3 credits

Students interested in careers in historic preservation are advised to take at least three of the following:

- Arch 560 Introduction to Historic Preservation, 3 credits
- Arch 760 History of Building Architecture, 3 credits
- Arch 835 Studies in Architectural History and Precedent: (Historic Preservation), 3 credits
- Arch 531 Historic Concepts of Architecture, 3 credits
- Arch 533 Vernacular Buildings and Groupings, 3 credits

Doctoral Preliminary Examination

The doctoral preliminary examination includes written and oral components designed to demonstrate the breadth of a student's knowledge and the ability to conduct advanced historical research. It must be taken within five years of enrollment in the Ph.D. program.

Students who fail the doctoral preliminary examination may not proceed to the dissertation. The exam may be retaken only once. The Director of Graduate Studies provides specific guidelines for selecting the Doctoral Preliminary Examination Committee and preparing the doctoral preliminary examination proposal.

Dissertation

The dissertation is a major piece of original research representing a substantial contribution to historical scholarship. In consultation with the Major Professor, the student chooses a dissertation committee, which must approve the prospectus. The student's Major Professor provides guidance in preparing the prospectus and in developing and writing the dissertation.

Dissertation Defense

The candidate must pass an oral examination in defense of the dissertation.

Time Limit and Residence

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program. To meet the continuous-year portion of the residence credit requirement, students must complete 8 to 12 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions. In exceptional cases, modifications of the residence requirement may be requested, subject to the approval of the History Department and the Graduate School.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

301 History of Christianity, East and West: to 1500. 3 cr. U/G.
Development of the institutional church; major church leaders; theological and doctrinal changes; worship, liturgy, and arts of Christendom; Christianity and social change. Prereq: jr st; satisfaction of GER English Composition competency req.

302 History of Christianity, East and West Since 1500. 3 cr. U/G.
Development of the institutional church; major church leaders, theological and doctrinal changes; worship, liturgy and arts of Christendom; Christianity and social change. Prereq: jr st; satisfaction of GER English Composition competency req.

303 A History of Greek Civilization: The Greek City-State. 3 cr. U/G.
Greek history from prehistoric times to the death of Alexander the Great. Prereq: jr st; satisfaction of English Composition competency req.

304 A History of Greek Civilization: The Age of Alexander the Great. 3 cr. U/G.
The Macedonian state to the death of Alexander the Great; the Hellenistic states. Prereq: jr st; completion of GER English Composition competency req.

307 A History of Rome: The Republic. 3 cr. U/G.
Roman history from the beginnings of the Roman state to the death of Julius Caesar. Prereq: jr st; satisfaction of English Composition competency req.

308 A History of Rome: The Empire. 3 cr. U/G.
Roman history from the death of Julius Caesar to the fall of the empire in the west. Prereq: jr st; satisfaction of English Composition competency req.

318 Medieval Civilization: The High Middle Ages. 3 cr. U/G.
The intellectual development of medieval Europe, from the twelfth century to the fourteenth century. Prereq: jr st; completion of GER English Composition competency req.

319 The Era of the Crusades. 3 cr. U/G.
A consideration of the relationships between western Europe and the East in the period of the Crusades. Prereq: jr st; satisfaction of English Composition competency req.

320 History of Medieval Warfare. 3 cr. U/G.
Evolution of warfare in the Middle Ages; technology, tactics, strategy, and interaction with politics and culture. Prereq: jr st; completion of GER English Composition competency req.

325 The Renaissance. 3 cr. U/G.
Culture and society in Europe from the fourteenth to the sixteenth century; early Italian Renaissance to Elizabethan England; the Age of Discovery. Prereq: jr st; satisfaction of English Composition competency req.

326 The Reformation. 3 cr. U/G.
Major religious movements and leaders of the sixteenth century; social and intellectual history of the Protestant and Catholic Reformations. Prereq: jr st; satisfaction of English Composition competency req.

329 The Roman Catholic Church, 1500 to the Present. 3 cr. U/G.
History of the Catholic Church from the Renaissance to the present. Prereq: jr st; satisfaction of GER English Composition competency req.

341 Imperial Russia: From Despotism to the Bolshevik Revolution. 3 cr. U/G.
Development of socioeconomic and political institutions, bureaucratic absolutism, emancipation of serfs and reform, the intelligentsia and revolutionary movements, impact in industrialization and World War I. Prereq: jr st; satisfaction of GER English Composition competency req.

343 The Soviet Union: From Lenin to Gorbachev. 3 cr. U/G.
Revolutionary Russia; Lenin and the creation of Soviet state; Stalin and modernization of USSR; WWII; Kruschev-Gorbachev period; Soviet socialism; the Soviet Union as super power. Prereq: jr st;. satisfaction of GER English Composition competency req.

345 The Modern Balkans: Nationalism, War, and Democracy. 3 cr. U/G.
Fall of the Ottoman Empire; revolutionary movements; emergence of national states; socio-political and cultural developments; Second World War; socialist regimes; civil wars and democratic transitions. Prereq: jr st; completion of GER English Composition competency req.

346 Poland and Its Neighbors, 1914-1945. 3 cr. U/G.
The effects of two world wars in East-Central Europe. The independence and subjugation of Poland, Czechoslovakia, Hungary and the Baltic States. Prereq: jr st; satisfaction of GER English Composition competency req.

348 Poland and Its Neighbors, 1945 to the Present. 3 cr. U/G.
Developments in Poland, East Germany, Czechoslovakia, and Hungary since the Second World War. The origins, development, decline, and fall of communist rule in Central Europe. Prereq: jr st; satisfaction of GER English Composition competency req.

353 Ireland Since 1600: Colony to Independent State. 3 cr. U/G.
Irish history from 1600 to the present. Topics include the famine, nationalism, and relationship with England. Prereq: jr st; satisfaction of GER English Composition competency req.

355 Modern and Contemporary France. 3 cr. U/G.
France as a political experiment, complex society, intellectual and cultural center, and imperial power since 1815, with emphasis on the period since the late nineteenth century. Prereq: jr st; satisfaction of GER English Composition competency req.

357 The Old Regime and the French Revolution. 3 cr. U/G.
France from Louis XIV to Napoleon: absolutism, Enlightenment, and the causes, course, and consequences of the Revolution. Prereq: jr st; satisfaction of GER English Composition competency req.

363 Germany: Hitler and the Nazi Dictatorship. 3 cr. U/G.
Rise and fall of Third Reich; Weimar Republic and collapse; Hitler's conquest of power, national socialist state, World War II; catastrophe and reconstruction. Prereq:

jr st; satisfaction of GER English Composition competency req.

364 The Holocaust: Anti-Semitism & the Fate of Jewish People in Europe, 1933-45. 3 cr. U/G.
The rise of Nazism; anti-Semitism; annihilation of Jews and other ethnic and religious minorities; Jewish responses and resistance; legacy of persecution. Not open for cr to students with Hist 295 'Historical Encounters: The Holocaust.' Prereq: jr st; satisfaction of English Composition competency req.

369 European Diplomatic History from World War I to the Cold War. 3 cr. U/G.
Crisis of the European state system in the twentieth century; rise of Hitler and origins of the Second World War; post-war Soviet American confrontation. Prereq: jr st; satisfaction of GER English Composition competency req.

370 Topics in the History of Religious Thought: (Subtitled). 3 cr. U/G.
Selected topics in the history of religious thought, for graduate and advanced undergraduate students. Intensive reading and student reports will be stressed. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of English Composition competency req.

371 Topics in European History: (Subtitled). 3 cr. U/G.
Selected themes and issues in European history. Retakable w/chg in topic to 9 cr max. Prereq: jr st; completion of GER English Composition competency req.

372 Topics in Global History: (Subtitled). 3 cr. U/G.
Selected issues in global history. Retakable w/chg in topic to 9 cr max. Prereq: jr st; completion of GER English Composition competency req.

373 Topics in Gender and History: (Subtitled). 3 cr. U/G.
Selected topics in the history of gender, family, and sexuality. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of English Composition competency req.

374 Europe: The Age of the Dictators, 1914-1945. 3 cr. U/G.
Fascism, communism, and the decline of democracy; origins and consequences of the First and Second World Wars. Prereq: jr st; satisfaction of English Composition competency req.

375 Contemporary European History, 1945 to the Present. 3 cr. U/G.
The Cold War; the recovery of Europe; student revolutions and spiritual crisis; economic stagnation; moves toward European unification; breakup of the Soviet bloc. Prereq: jr st; satisfaction of GER English Composition competency req.

376 History of Ancient China, Earliest Times to 220 A.D. 3 cr. U/G.
History of China through First Unification and Great Empire of Han Dynasty; attention to development of distinctive qualities of Chinese philosophy, politics, society, and material culture. Prereq: jr st; satisfaction of English Composition competency req.

377 Modern China. 3 cr. U/G.
China in the nineteenth and twentieth centuries, from the Opium Wars to the establishment of People's Republic in 1949. Major political, economic and social issues. Prereq: jr st; satisfaction of English Composition competency req.

378 Revolution in China. 3 cr. U/G.
History of the socialist revolution in China. Background examination of the Chinese communist movement, but major emphasis on People's Republic from 1949 to the present. Prereq: jr st; satisfaction of GER English Composition competency req.

380 Buddhism: A Cultural History. 3 cr. U/G.
Development of Buddhist culture in Asia and contemporary globalized world; intertwining themes of individual purification and Buddhist visions of just and unjust societies. Prereq: jr st; completion GER English Composition competency req.

381 Southeast Asia: The Formative Period to 1800. 3 cr. U/G.
A survey of the region from the beginnings of agriculture and monsoon navigation until the beginnings of European conquest. Prereq: jr st; satisfaction of GER English Composition competency req.

382 Southeast Asia: The Age of Imperialism and Revolution Since 1800. 3 cr. U/G.
A survey of the region beginning with the European occupation of the mainland and ending with the Vietnam War. Prereq: jr st; satisfaction of GER English Composition competency req.

383 North Africa from the Arab Conquest to the Present. 3 cr. U/G.
The process of Islamization, Arabization, and urbanization of North Africa from the seventh century to the present, including the Spanish-North African interrelationship. Prereq: jr st; satisfaction of GER English Composition competency req.

386 Africa: The Age of Empires to 1880. 3 cr. U/G.
Survey of the highlights of early African history; empires black and white; religion; slavery; material culture. Prereq: jr st; satisfaction of English Composition competency req.

387 Africa: Imperialism and Independence Since 1880. 3 cr. U/G.
The phases of colonial relationships and the parties involved; conquest, pacification, and independence of African states. Prereq: jr st; satisfaction of GER English Composition competency req.

392 The History of Southern Africa. 3 cr. U/G.
Surveys the history of South Africa and Zimbabwe with special reference to the twentieth century, comparing their struggles for majority rule. Prereq: jr st; satisfaction of GER English Composition competency req.

393 History of Mexico. 3 cr. U/G.
An upper-division survey course spanning all periods of Mexican history, with special emphasis on the historical origins and development of major contemporary issues. Prereq: jr st or cons instr; satisfaction of GER English composition competency req.

394 History of Japan to 1600. 3 cr. U/G.
Japanese political, economic, and social development, cultural change, and major historical figures, from ancient times to 1600. Prereq: jr st; completion of GER English Composition competency req.

395 History of Japan Since 1600. 3 cr. U/G.
Japan's rise as modern nation-state and economic power; evolution of social, political, cultural institutions from establishment of Tokugawa shogunate through Meji restoration to present. Prereq: jr st; completion of GER English Composition competency req.

400 Topics in Latin American and Caribbean History: (Subtitled). 3 cr. U/G.
Selected themes and issues in the history of South America, Central America, and the Caribbean Islands. Retakable w/chg in topic to 9 cr max. Prereq: jr st; completion of GER English Composition competency req.

401 Topics in Middle Eastern History: (Subtitled). 3 cr. U/G.
Selected themes and issues in Middle Eastern history. Retakable w/chg in topic to 9cr max. Prereq: jr st; completion of GER English Composition competency req.

402 Topics in Asian History: (Subtitled). 3 cr. U/G.
Selected themes and issues in the history of Asia. Retakable w/chg in topic to 9 cr max. Prereq: jr st; completion of GER English Composition competency req.

403 American Origins, 1600-1750. 3 cr. U/G.
The beginnings of plantation society in the South, colonist-Indian relations, Puritanism, Quakers, colonial riots and rebellions, the Great Awakening, Imperial system. Prereq: jr st; satisfaction of GER English Composition competency req.

404 Topics in American History: (Subtitled). 3 cr. U/G.
Selected themes and issues in the history of the United States. Retakable w/chg in topic to 9 cr max. Prereq: jr st; completion of GER English Composition competency req.

405 The Age of the American Revolution, 1750-1789. 3 cr. U/G.
Background to revolution; British policy and American protest; political, social, diplomatic, and military phases of the War for Independence; Articles of Confederation; Constitution of 1787. Prereq: jr st; satisfaction of GER English Composition competency req.

409 Causes of the Civil War, 1828-1861. 3 cr. U/G.
Examination of the relationship between sectional conflict and political and social developments; the explanation of the causes and timing of the Civil War. Prereq: jr st; satisfaction of GER English Composition competency req.

410 Civil War and Reconstruction: The United States, 1861-1877. 3 cr. U/G.
The military conflict from Sumter to Appomattox; policies of Lincoln, Reconstruction and aftermath of slavery. Not open for cr to students who have had Hist 411. Prereq: jr st; satisfaction of GER English Composition competency req.

418 America in Prosperity, Depression and War, 1921-1945. 3 cr. U/G.
The Twenties as a transition period; the Great Depression; Franklin D. Roosevelt and the New Deal; foreign policies and U.S. participation in World War II. Prereq: jr st; satisfaction of GER English Composition competency req.

419 America Since 1945. 3 cr. U/G.
Postwar America, including social and economic developments, Cold War rivalries, and the changing political scenes from the Truman years to the present. Prereq: jr st; satisfaction of English Composition competency req.

420 The History of the American Presidency: A Biographical Approach. 3 cr. U/G.
A biographical study of American presidents from Washington to Nixon; their backgrounds, leadership styles, successes, failures, and legacies. Prereq: jr st; satisfaction of GER English Composition competency req.

421 American Thought and Culture to 1860. 3 cr. U/G.
Major intellectual movements in America: Puritanism, the Enlightenment, Romanticism, religion, political thought, higher education, science, parallel movements in art and architecture. Prereq: jr st; satisfaction of GER English Composition competency req.

430 American Constitutional Development, 1876 to the Present. 3 cr. U/G.
Problems of government and the economy, civil rights and civil liberties in war and peace as reflected in controversies over meaning of the federal constitution. Prereq: jr st; satisfaction of GER English composition competency req.

434 The United States as a World Power in the 20th Century. 3 cr. U/G.
How the United States became involved in two world wars and a cold war, while spreading its interests and influence across the globe. Prereq: jr st; satisfaction of GER English Composition competency req.

435 Ethnic America: To 1880. 3 cr. U/G.
Survey of the conflict between cultural diversity and the melting pot, included are theories about and experiences of ethnic groups in America, particularly the bad west. Prereq: jr st; satisfaction of GER English composition competency req.

439 The Italian-American Experience in the United States. 3 cr. U/G.
Italian-American cultural history, including the arts, religion, entertainment, family relationships and discrimination encountered; Italian-American experience in the context of the global diaspora. Prereq: jr st; completion of GER English Composition competency req.

440 History of the American Working Classes. 3 cr. U/G.
The social and occupational composition of the American working classes and their response to capitalism, socialism, and the organized labor movement. Prereq: jr st; satisfaction of GER English Composition competency req.

445 African Americans from Slavery to Freedom. 3 cr. U/G.
African-American history from shores of Africa through Atlantic slave trade to plantation slavery and formation of an African-American community in the New World. Prereq: jr st; satisfaction of English Composition competency req.

446 African Americans Since the Civil War. 3 cr. U/G.
The search for justice and equality, from emancipation in 1865 to the civil rights revolution of the 1960's and beyond. Prereq: jr st; satisfaction of English Composition competency req.

448 Baseball in American History. 3 cr. U/G.
The origins and development of baseball in the United States, its rise as a spectator sport, and its place in American life and culture. Prereq: jr st; satisfaction of GER English Composition competency req.

449 Popular Culture in America, 1800 to the Present. 3 cr. U/G.
Popular culture seen through artifacts and the mass media: popular music, newspapers, magazines, dime novels, film, comics, TV, radio, folk heroes, sports, and 'stars.' Prereq: jr st; satisfaction of GER English Composition competency req.

450 Growth of Metropolitan Milwaukee. 3 cr. U/G.
History of the city and county of Milwaukee and Milwaukee suburbs, emphasizing population patterns; government; economic change; social, cultural and educational institutions; and spatial relationships. Prereq: jr st; satisfaction of GER English Composition competency req.

451 History of Wisconsin. 3 cr. U/G.
Political, economic and social development of Wisconsin, especially since 1815, with attention to such major personalities as the La Follettes, Kohlers, Turner, Hoard, Wright, and Gale. Prereq: jr st; satisfaction of GER English Composition competency req.

452 History of Religion in American Life to 1870. 3 cr. U/G.
Development of different religions in America; role of religion in American society, politics; church attitudes on race and war; lives of religious leaders; theology. Prereq: jr st; satisfaction of English Composition competency req.

453 History of Religion in American Life Since 1870. 3 cr. U/G.
Development of different religions in America; role of religion in American society, politics; church attitudes on race and war; lives of religious leaders; theology. Prereq: jr st; satisfaction of GER English Composition competency req.

456 The Human Side of History: American Biographies. 3 cr. U/G.
The study of American history through biography, emphasizing a variety of figures who represent major historical issues, ideas, and movements. Prereq: jr st; satisfaction of GER English Composition competency req.

457 Military History of the United States. 3 cr. U/G.
Founding and growth of the military establishment; the exercise of the military art; military policies in connection with relevant political, social, and economic factors. Prereq: jr st; satisfaction of GER English Composition competency req.

460 The History of Poverty in America. 3 cr. U/G.
Social welfare policies and programs (including evolution of social work profession), 1620-present, in light of major developments in American social and intellectual history. Prereq: jr st; satisfaction of GER English Composition competency req.

463 History of the American City. 3 cr. U/G.
Character of American urbanization and its social and political consequences; responses to 'urban problems' from the early nineteenth century to the present. Prereq: jr st; satisfaction of GER English Composition competency req.

468 The American Feminist Movement. 3 cr. U/G.
History of the American feminist movement from colonial times to the present. Prereq: jr st; satisfaction of GER English Composition competency req.

469 Manhood in America. 3 cr. U/G.
A gendered exploration of the history of masculinity in the United States; how various styles and functions of manhood changed over time. Counts as repeat of Hist 373 w/topic 'Manhood in America.' Prereq: jr st, satisfaction of GER English Composition competency req; or grad st.

473 History of Wisconsin Indians. 3 cr. U/G.
History of Wisconsin tribes from their earliest years to the present, including European contacts, treaties, the fur trade,

and wars. Prereq: jr st; satisfaction of English Composition competency req.

474 Topics in North American Indian History: (Subtitled). 3 cr. U/G.
Detailed examination of such topics as Indian legal status, culture change, Indian education, Pan-Indianism and gender roles. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before coursework level, content and credits are determined and/or in specially prepared program coursework. Retakable w/chg in topic. Prereq: jr st; satisfaction of English Composition competency req; acceptance for Study Abroad Prog.

594 Methods and Theory in the Historical Study of Religion: (Subtitled). 3 cr. U/G.
Methods and historiography in the history of religion; focus on a particular religious-historical complex. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

595 The Quantitative Analysis of Historical Data. 3 cr. U/G.
Statistical methods and the computer in analysis of historical problems: statistics through regression; use of social science computer package; special techniques for handling historical data. Prereq: jr st, completion of GER English Composition & Mathematical Skills competency reqs; 3 yr HS Math, grade of C or better in Math 105(P) or Math placement test score of 30.

596 Maps as Historical Sources. 3 cr. U/G.
Introduction to maps, both as historical artifacts and as instruments for reinterpreting historical realities. Prereq: jr st; completion of GER English Composition competency req.

597 Fields and Methods in Public History. 3 cr. U/G.
Career opportunities for historians in historical agencies, focusing on the work and methods of archivists, museum curators, historic preservationists, oral historians, and administrators. Prereq: jr st; completion of GER English Composition competency req; cons coord of public hist.

700 Introduction to Public History. 3 cr. G.
Seminar on community history, relations between academic history and public history, and uses of material culture and oral history. Prereq: grad st.

701 Internship in Public History. 1-6 cr. G.
Requirements determined and evaluation arranged on an individual basis. Total of 6 cr required for the public history specialization of the M.A. degree and the optional public history minor in the PhD degree. Prereq: grad st; cons coord of public history.

712 Historiography and Theory of History. 3 cr. G.
Seminar on history of historical writing and thought, including such theoretical problems as objectivity, generalization, the nature of historical explanation, and the value of history. Prereq: grad st.

713 Historical Research Methods. 3 cr. G.
Seminar addressing evaluation of evidence, quantitative methods, and application of social science methodology to historical research. Prereq: grad st.

714 Oral History. 3 cr. G.
Seminar on purpose, value, theory, method, and uses of oral history. Prereq: grad st; Hist 700(P) required only for public history students.

715 Research Methods in Local History. 3 cr. G.
Seminar on history and methodology of studying small towns, rural areas, cities, and neighborhoods in the United States. Prereq: grad st.

716 Professional and Pedagogical Issues in History. 3 cr. G.
Seminar on professional and pedagogical aspects of historical work, including course management, lecture writing, grading, and grant writing. Prereq: grad st.

717 History and the New Media. 3 cr. G.
Seminar on uses of new forms of technology in historical research and teaching. Prereq: grad st.

740 Approaches to the Modern I. 3 cr. G.
Seminar on major figures and intellectual forces that have shaped multiple approaches to the modern across the academy. English 740, Hist 740, & MAFLL 740 are jointly offered; they count as repeats of one another. Prereq: grad st.

741 Approaches to the Modern II. 3 cr. G.
Seminar on major figures and intellectual forces that have shaped approaches to the modern across periods. English 741, Hist 741 & MAFLL 741 are jointly offered; they count as repeats of one another. Prereq: grad st.

800 Colloquium on U.S. History: (Subtitled). 3 cr. G.
Seminar on issues and problems in U.S. history. Specific topics announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

805 Colloquium: The Age of Jackson. 3 cr. G.
Studies in basic aspects of American history between 1815 and 1848 with emphasis on changing interpretations. Prereq: grad st; cons instr.

807 Colloquium on the U.S. in the Era of the Civil War. 3 cr. G.
Seminar on politics, economic development, and social and legal history from 1830 to 1865. Prereq: grad st.

809 Colloquium on Readings in the Gilded Age, 1877-1901. 3 cr. G.
Seminar that surveys historical literature on politics, culture, and society in late 19th century United States. Prereq: grad st.

813 Colloquium: Twentieth-Century Problems in American History. 3 cr. G.
A study of selected aspects of the American domestic scene and of important contemporary historians and their interpretations of the recent past. Prereq: grad st; cons instr.

825 Colloquium in the History of the South. 3 cr. G.
Studies of aspects of the history of the south with emphasis on changing interpretations. Prereq: grad st; cons instr.

831 Colloquium on U.S. Labor History. 3 cr. G.
Seminar on topics in the history of the working classes in the U.S. since 1800. Prereq: grad st.

833 Colloquium on Urban History: (Subtitled). 3 cr. G.
Seminar on issues and problems in urban development and institutions. Specific topics announced in Schedule of Classes each time course is offered. Retakable w/ chg in topic to 9 cr max. Prereq: grad st.

835 Colloquium-Literature of Milwaukee. 3 cr. G.
Examination and analysis of the documentation of Milwaukee's history, biography, memoirs, fiction, newspapers and periodicals, government documents and reports, manuscripts, maps, iconographic materials, and physical survivals. Prereq: grad st; cons instr.

839 Approaches to Global History. 3 cr. G.
Seminar on historiography and practices of global and comparative history. Prereq: grad st.

840 Colloquium on Global History: (Subtitled). 3 cr. G.
Seminar on historical developments from a global or comparative perspective. Specific topics announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

841 Colloquium on Modern Studies: (Subtitled). 3 cr. G.
Seminar on historical developments from a modern studies perspective. Specific topics and any additional prerequisites announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

850 Colloquium on European History: (Subtitled). 3 cr. G.
Seminar on issues and problems in European history. Specific topics announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

853 Colloquium on Ancient History. 3 cr. G.
Seminar on topics in the history of ancient civilizations. Prereq: grad st.

859 Colloquium in Medieval Economic History. 3 cr. G.

Studies in the economic and social history of the middle ages. Prereq: grad st; cons instr.

862 Colloquium in the History of Renaissance and Reformation Europe: 3 cr. G.
Introduction to important primary and secondary sources for the period; historiographical problems; different periods and/or problems are dealt with from semester to semester. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

868 Colloquium in Modern British History. 3 cr. G.
Review basic historical literature on development of British economy, social structure and relations, political institutions, and cultural values since industrial revolution. Prereq: grad st; cons instr.

877 Colloquium in Modern German History: (Subtitled). 3 cr. G.
Studies in nineteenth and twentieth century German history, the period to vary from semester to semester. Specific topic and any additional prerequisites announced in schedule of classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

880 Colloquium: European Diplomatic History. 3 cr. G.
Studies in modern European diplomatic history, emphasizing historiography, interpretation, and archival sources. Prereq: grad st; cons instr.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

894 Colloquium in Tropical History: Colonial Rule. 3 cr. G.
The colonial period both from the point of view of the european rulers and the colonized peoples of the third world. Prereq: grad st; cons instr.

896 Colloquium in Latin American History: The National Period. 3 cr. G.
Studies with an essentially historiographical approach, bibliography, interpretations, and approaches or methods. Prereq: grad st; cons instr.

898 Colloquium in Modern Chinese History. 3 cr. G.
Studies in 19th and 20th century Chinese history with emphasis on the main thematic approaches employed by Chinese, Japanese, European, and American historians. Prereq: grad st; cons instr.

900 Seminar on U.S. History: (Subtitled). 3 cr. G.
Topics in U.S. history. Specific topics announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

903 Seminar: American Political Hist in Revolutionary & Early National Periods. 3 cr. G.
Studies in American political history in the age of the founding fathers. Prereq: grad st; cons instr.

904 Seminar in Modern America. 3 cr. G.
Research in United States history since 1921. Prereq: grad st.

907 Seminar on U.S. Intellectual and Cultural History. 3 cr. G.
Intellectual and cultural figures and movements in U.S. history. Prereq: grad st.

912 Seminar on U.S. Ethnic History. 3 cr. G.
Ethnic communities, identities, and issues in U.S. history. Prereq: grad st.

915 Seminar on U.S. Foreign Relations. 3 cr. G.
Political, economic, and cultural dimensions of U.S. diplomacy. Prereq: grad st.

921 Seminar in the History of the American West. 3 cr. G.
Problems in the history of the west. Prereq: grad st; cons instr.

924 Seminar In American Economic History. 3 cr. G.
Problems in the economic history of the United States. Prereq: grad st; cons instr.

927 Seminar on U.S. Urban History. 3 cr. G.
Housing, race relations, powers and functions of municipal government, law enforcement, and city planning in the U.S. Prereq: grad st.

930 Seminar in Milwaukee and Wisconsin History. 3 cr. G.
- Prereq: grad st; cons instr.

940 Seminar on Global History: (Subtitled). 3 cr. G.
Historical developments from a global or comparative perspective. Specific topics announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

950 Seminar on European History: (Subtitled). 3 cr. G.
Topics in European history. Specific topics announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

965 Seminar on European Intellectual and Cultural History. 3 cr. G.
Intellectual and cultural figures and movements in European history. Prereq: grad st.

970 Seminar on European Political History. 3 cr. G.
State, society, revolution, war and empire in European history. Prereq: grad st.

971 Seminar on the History of American Urban Problems. 3 cr. G.
Historical analysis of the current problems of housing, race relations, the powers and functions of municipal government, law enforcement, and city planning in the United States. Hist 971 & Urb Std 971 are jointly offered; they count as repeats of one another. Prereq: grad st.

972 Seminar on Modern Studies: (Subtitled). 3 cr. G.
Theory and practice of avant-garde culture in Europe and the Americas since the mid-nineteenth century. Specific topics and any additional prerequisites announced in the Timetable each time course is offered. Retakable w/ chg in topic to 9 cr max. Prereq: grad st.

973 Seminar on Non-Western History: 3 cr. G.
Significant themes and eras in the history of non-Western peoples and nations. Specific topics and any additional prerequisites announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

980 Growth of Urban Society. 3 cr. G.
Seminar in historical, social, and ecological growth and development of urban agglomerations. Comparative framework will be used to examine the urban process. Hist 980 & Urb Std 980 are jointly offered; they count as repeats of one another. Prereq: grad st.

985 Master's Thesis Research. 1-6 cr. G.
For students in the thesis option. Retakable to 6 cr max. Prereq: grad st; cons instr.

989 Master's Level Independent Work. 1-3 cr. G.
Independent study on topics selected in agreement with supervising professor. Retakable to 9 cr max. Prereq: grad st; cons instr.

990 Dissertation Research. 1-6 cr. G.
Research or dissertation work for students in the doctoral program in History. Retakable as necessary to fulfill dissertation requirements. Prereq: grad st; cons instr.

999 Doctoral Level Independent Work. 1-3 cr. G.
Independent study on topics selected in agreement with supervising professor. Prereq: grad st; cons instr.

HUMAN RESOURCES AND LABOR RELATIONS

- Phone: (414) 229-4310
- Fax: (414) 229-5915
- E-mail: mhrlr@.uwm.edu

School/College: College of Letters and Science and Lubar School of Business

Degrees Conferred:

- Master of Human Resources and Labor Relations

Overview

The Lubar School of Business and the College of Letters and Science offer and present jointly the Master of Human Resources and Labor Relations (MHRLR).

The MHRLR is an innovative master's program offering students an interdisciplinary blend of courses and faculty in the areas of human resources and labor relations. The MHRLR program prepares students for careers as practitioners, and emphasizes a firm educational grounding in both the liberal arts and business administration. This grounding includes knowledge of human resources, staffing, labor relations, the legal system, and statistics.

Elective courses and options within the core requirements allow students to gain the specialized knowledge needed to work in the human resource management and labor relations areas of: compensation and benefits, collective bargaining, alternative dispute resolution, recruitment and selection, training and development, occupational health and safety, equal employment opportunity, strategic human resource management, and international human resource management.

The program is designed for full-time and part-time students who seek careers in the private or public sectors, and with unions or management.

Graduate Faculty

(Professors' home departments appear in parentheses)

Professors

Anderson, Margo, Ph.D., Rutgers University(History)
Burrell, Nancy, Ph.D., Michigan State University (Communications)
Heywood, John, Ph.D., University of Michigan (Economics)
Martin, Larry, Ph.D., University of Wisconsin-Madison (Administrative Leadership)
Mone, Mark, Ph.D., Washington State University (Business Administration)
Ragins, Belle Rose, Ph.D., University of Tennessee-Knoxville (Business Administration)
Soofi, Ehsanolah, Ph.D., University of California-Riverside (Business Administration)
Yasai-Ardekani, Masoud, Ph.D., City University Business School-London (Business Administration)

Associate Professors

Alwan, Layth, Ph.D., University of Chicago (Business Administration)
Bender, Keith, Ph.D., Duke University (Economics)
Daley, Barbara, Ph.D., Cornell University (Administrative Leadership)
Drewianka, Scott, Ph.D., University of Chicago (Economics)
Freeman, Sarah, Ph.D., University of Michigan (Business Administration)
Hewitt, Jeanne, Ph.D., University of Illinios-Chicago (Nursing)
Marcus, Richard, Ph.D., University of Chicago (Business Administration)
Miller, Janice, Ph.D., Arizona State University (Business Administration)

Assistant Professors

Adams, Scott, Ph.D., Michigan State University (Economics)
Singh, Romila, Ph.D., Drexel University (Business Administration)

Master of Human Resources and Labor Relations

Admission

An applicant must meet Graduate School requirements plus the following requirements to be considered for admission to the MHRLR program:

1. Submission of GRE or GMAT scores and two letters of recommendation to the MHRLR program.

2. Students admitted to the program will be expected to present at least three credits of prior work in microeconomics and introductory statistics.

3. Students who are deficient in the areas of microeconomics or statistics at the time of admission (see above) will be expected to satisfy deficiency requirements within three enrolled semesters. Deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

4. Applicants are reviewed by the MHRLR admissions committee to assess academic achievements and the ability to do intensive graduate-level work.

Major Professor as Advisor

A student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The assistant director of the MHRLR Program advises and supervises the newly admitted student.

The assistant director, in consultation with the student, reviews the student's academic background and career goals and designs an appropriate program of study consistent with degree requirements.

Credits and Courses

The Master of Human Resources and Labor Relations degree will be awarded upon completion of 36 credits of prescribed graduate study and appropriate prerequisite course work. The program offers a balance between liberal arts and business-based education, requiring that at least 15 credits be taken within the College of Letters and Sciences and at least 15 credits be taken within the Lubar School of Business.

The degree requires completion of 21 credits in core courses that provide each student with a solid grounding in both labor relations and human resources while permitting some specialization according to student interests.

Required Courses

Core courses are as follows:

- Ind Rel 701 Industrial and Labor Relations
- Bus Mgmt 706 Managing in a Dynamic Environment
- Bus Admin 738 Human Resource Management
- Bus Admin 443 Special Topics in HRM (Staffing)
- Econ 415 Economics of Employment Relations
- OR
- Econ 753 Collective Bargaining
- AND
- Ind Rel 712 Employment Law
- OR
- Ind Rel 711 Labor Relations Law
- AND
- Ind Rel 731 Research Tools for Practitioners in Human Resources and Labor Relations
- OR
- Bus Mgmt 731 Research Tools for Practitioners in Human Resources and Labor Relations

If Econ 415 and Econ 753 are both taken, one of these may be used to help fulfill elective requirements. If Ind Rel 711 and Ind Rel 712 are both taken, one of these may be used to help fulfill elective requirements. The required course Research Tools for Practitioners in Human Resources and Labor Relations can be

taken as either Bus Mgmt 731 or Ind Rel 731 (but not both).

To ensure a well-rounded education, students are required to fulfill the remainder of the 15-credit requirement within the College of Letters and Science and within the Lubar School of Business by selecting from a list of approved elective courses from within each organization. A student may, with advisor approval, fulfill the 36-credit requirement by taking up to 6 credits from the approved list of alternative electives in other schools such as the College of Nursing, the School of Education, and the School of Social Welfare. No student will be permitted to apply more than nine credits taken at the U/G level toward meeting MHRLR degree requirements.

Elective Courses

Please refer to www.uwm.edu/Dept/MHRLR for a comprehensive listing of elective courses.

Students without prior experience in the field are encouraged to take advantage of the program's extensive contacts in the business and labor communities by undertaking one or more internships as either Bus Adm 899 or Ind Rel 921. Students may also utilize the wide range of faculty expertise available within the program for a major research paper on a human resources or labor relations topic. These papers, under the direction of a faculty advisor, are taken as either Ind Rel 801 or Bus Adm 899. A student may graduate with honors from the MHRLR program by maintaining a 3.5 grade-point average within the program, and by writing a 3-credit major research paper (under Bus Adm 899 or Ind Rel 801).

Any new course development, programmatic changes, or program name change must be approved by the appropriate curricular committees and faculty in the respective units.

The program, including admissions and course staffing, is subject to the AACSB accreditation requirements.

Graduate Certificate in Mediation and Negotiation

The Department of Communication, in cooperation with the Master's in Human Resources and Labor Relations (MHRLR) and the Lubar School of Business, offers the Graduate Certificate in Mediation and Negotiation. The program of study is designed to provide practical and theoretical knowledge for students who wish to pursue or advance careers that involve managing or resolving disputes in organizational, educational, community, or family contexts. The program is designed to meet the increasing need of business, organized labor, public sector, and community organizations for people with skills in conflict resolution.

Using an interdisciplinary approach, the program offers a basic knowledge of mediation and negotiation between individuals and across organizations, allows some specialization in further course work, and is integrated with a final course involving either field-work or a research paper written under the direction of an expert in the area.

Students can complete the Graduate Certificate in Mediation and Negotiation while enrolled either part-time or full-time, and by taking courses during evenings and/or weekends. With the approval of the program, students admitted to either the MA in Communication or the MHRLR degree program may apply courses taken to meet certificate requirements toward their degree.

Admission

Students applying for the Certificate Program in Mediation and Negotiation must hold a bachelor's degree and must have earned a 2.75 GPA overall or must furnish substantial evidence of ability to succeed in graduate level work. Students may apply to the Graduate School as candidates for the certificate program in non-degree status, or they may pursue the certificate while enrolled in another graduate program.

Credits and Courses

The certificate requires 12 credits, including 9 credits of course work and 3 credits of field work or research.

Required Courses

The following two

- Comm 665: Introduction to Mediation
- Econ 753: Collective Bargaining

Elective Course

select one of the following

- Comm 865: Theory and Practice of Meditation
- IR 715: Alternative Dispute Resolution
- Bus Admin 737: Managerial Decisions and Negotiations

Field Work or Research Requirement

select one of the following

- Comm 998: Internship in Communication
- Comm 999: Independent Study
- IR 801: Research Seminar in Industrial and Labor Relations
- IR 921: Internship in Industrial Relations
- IR 999: Independent Study
- Bus 799: Reading and Research

Recommended or Related Courses

Not required for the Certificate

- Comm 710: Managerial Communication
- Comm 823: Seminar in Small Group Communication
- Ed Pol 510: Foundations of Human Relations
- IR 711: Labor Relations Law
- IR 714: Industrial Relations in the Public Sector
- Soc 766: Theory and Method in Social Psychology

Graduate Certificate in International Human Resources and Labor Relations

The Master's in Human Resources and Labor Relations program offers the Graduate Certificate in International Human Resources and Labor Relations. The certificate responds to the increasing influence of globalization on the practice of Human Resource Management and the conduct of Labor Relations. Firms and unions are increasingly part of a complex web of international economic relationships. Many of the workplace innovations now taken for granted began overseas: quality circles, work groups and flatter hierarchies. Many firms operate overseas under very different labor market institutions and human resource expectations. The program of study provides practical and theoretical knowledge designed to help students function as professionals in the increasing broad international context of human resource management and labor relations.

Students can complete the Graduate Certificate in International Human Resources and Labor Relations while enrolled either part-time or full-time, and by taking courses during the evening. With the approval of the program, students admitted to the MHRLR degree program may apply courses taken to meet certificate requirements toward their degree.

Admission

Students applying for the Certificate Program in International Human Resources and Labor Relations must hold a bachelor.s degree and must have earned a 2.75 GPA overall or must furnish substantial evidence of ability to succeed in graduate level work. Students admitted to the Certificate will be expected to present at least three credits of prior work in microeconomics and three credits in statistics. Students may apply to the Graduate School as candidates for the certificate program in non-degree status, or they may pursue the certificate while enrolled in another graduate program.

Credits and Courses

Requires Courses, 12 cr

- Ind Rel 701 Industrial and Labor Relations
- Econ 755 Comparative Labor Markets and the Employment Relationship
- Bus Mgt 723 Managing Across Cultures,

- Bus Adm 738 Human Resource Management OR Bus Adm 795 International Human Resource Management

Course substitutions would be allowed with the consent of the MHRLR Director for those who had previously completed similar coursework.

Recommended Courses (not required)

- Ind Rel 999 Independent Study
- Bus Adm 799 Reading and Research
- Ind Rel 921 Internship in Industrial Relations

Time Limit

Non-degree students must complete the certificate requirements within three years of initial enrollment. For those who are simultaneously enrolled in a degree program, the time limit for certificate completion is the same as that for the degree.

Courses

Industrial and Labor Relations

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

701 Industrial and Labor Relations. 3 cr. G.
Industrial relations systems, unions and management as institutions, work place as a socio-economic unit, labor market analysis, human resource management and collective bargaining. Prereq: grad st or cons instr.

711 Labor Relations Law. 3 cr. G.
Legal aspects of labor relations; operations of National Labor Relations Board, representation issues, use of economic weapons, good faith bargaining, enforcement, Wisconsin Employment Relations Commission. Prereq: grad st or cons instr.

712 Employment Law. 3 cr. G.
Introduction to federal laws and regulations covering such topics as wage standards, unemployment compensation, osha, alien employment, social security, employee safety and prohibited discrimination. Prereq: grad st or cons instr.

714 Industrial Relations in the Public Sector. 3 cr. G.
Economic and legal aspects; federal, state with emphasis on municipal sector, including fire and police; impact of unionism; impasse resolution in Wisconsin and Illinois. Prereq: grad st or cons instr.

715 Alternative Dispute Resolution. 3 cr. G.
Examination of the processes for dispute resolution (particularly processes involving third parties); their utility and application in union, non-union and non-workplace settings. Prereq: grad st & Econ 753(P), or cons instr.

716 Compensation: Theory and Practice. 3 cr. G.
Examination of pay policies and practices, their impact on employees, internal and external determinants, and problems of administration. Prereq: grad st; Bus Adm 731(P) & 738(P) or cons instr.

717 Employee Benefits. 3 cr. G.
Examination of role and scope of employee benefits, their determinants, and problems of administration. Prereq: grad st; Econ 753(R); Ind Rel 712(R).

731 Research Tools for Practitioners in Human Resources and Labor Relations. 3 cr. G.
Planning and carrying out simple surveys; evaluating policies, programs, and procedures in organizations; interpreting, evaluating and using research conducted by others. Ind Rel 731 and BusMgmt 731 are jointly offered; they count as repeats of one another. Prereq: grad st; Econ 210(P) or Bus Adm 210(P) or cons instr.

754 Worker Participation. 3 cr. G.
Analyzes worker participation programs using history, economic and industrial relations theories, and empirical research and case studies. Jointly-offered w/& counts as repeat of Econ 754. Prereq: grad st; Econ 451 or cons instr.

800 Current Issues in Industrial Relations: (Subtitled). 1-3 cr. G.
Topics course covering subjects such as quality work, innovations, employee testing, dispute resolution. Retakable w/chg in topic to 6 cr max. Prereq: grad st; Ind Rel 701(P) or cons instr.

801 Research Project in Industrial and Labor Relations. 3 cr. G.
Work with a faculty advisor on the development and preparation of a research project on a current industrial relations issue. Prereq: completion of 24 cr in MHRLR Prog; cons instr.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

921 Internship in Industrial Relations. 1-6 cr. G.
An internship with a company, union or a governmental agency in the field of human resources and labor relations. Project paper required. Prereq: grad st; 8 cr in MHRLR Prog completed.

999 Independent Study. 1-3 cr. G.
Supervised investigation of a particular topic area either not covered by other industrial relations courses or a level of sophistication beyond that in other courses. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

Courses

Business Administration

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

442 Industrial Psychology. 3 cr. U/G.
Application of psychological principles to industrial problems. Prereq: Bus Adm 330(P) & Psych 101(P).

443 Special Topics in Human Resources Management: (Subtitled). 3 cr. U/G.
Selected topics in human resources management. Specific topics will appear in the Schedule of Classes whenever the course is offered. May be retaken with change in topic to max of 9 cr. Prereq: jr st & admis to Bus Adm major (excluding Pre-Business Administration srs & Univ Special Students with no undergraduate degree), & Bus Adm 330(P); or grad st.

733 Organizational Development. 3 cr. G.
Problems of implementing change. Roles of external and internal consultants. Determining needs and measuring relevant variables. Prereq: grad st; BusMgmt 706(P) or cons instr.

737 Managerial Decisions and Negotiations. 3 cr. G.
Provides frameworks for making effective decisions and negotiating viable solutions. Improves performance in these key managerial roles by engaging in case study, exercises, and industry projects. Prereq: grad st; BusMgmt 706(P).

795 Seminar-in-Management: (Subtitled). 1-3 cr. G.
Intensive and critical examination of a specific management problem area or a related research question. Specific topic and additional prerequisites may appear in the schedule of classes each semester. Repeatable with change in topic. Prereq: grad st; appropriate management science core courses or cons instr.

796 Competition and Strategy. 3 cr. G.
An interdisciplinary analysis of forces that shape industry competition and a firm's competitive advantage. Focuses on strategies for success in high technology, mature, declining, and global industries. Prereq: grad st; BusMgmt 706.

799 Reading and Research. 1-12 cr. G.
Individual work suited to the needs of graduate students. May be retaken with change in topic with cons appropriate Lubar School of Business prog committee. Prereq: grad st; cons instr.

899 Management Research Project/Thesis. 1-6 cr. G.
Original analysis of a management problem. Involves the application of the elements of scientific inquiry in the context of a contemporary problem. Prereq: grad st; cons instr.

Courses

Business Management

709 Data Analysis for Management Applications. 3 cr. G.
Developing statistical thinking through basic concepts for data analysis. Formulation of regression and related models, diagnostics, interpretations and

reporting of statistical results for management applications. Prereq: grad st; Bus Adm 701(P) & 702(P).

712 Strategic Management. 3 cr. G.
Tools for strategic thinking and developing competitive strategies. Analysis of forces that shape industry competition and competitive advantage. Management issues and internal functional strategies that lead to effective strategy implementation. Prereq: grad st; BusMgmt 704(P); 705(P); 706(P); 707(P); 708(P); 709(P); 710(P); 711(P).

715 Leadership, Team Building, and Effective Management. 3 cr. G.
Provides a working knowledge of team building, managing change, and effective business communication methods, and an understanding of leadership tools. Prereq: grad st.

HUMANITIES

School/College: College of Letters and Science

No Degree Conferred: Courses Only

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

701 Topics in the Humanities: (Subtitled). 1-3 cr. G.
Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr

800 Newberry Library Renaissance Seminar: 1-3 cr. G.
Graduate seminars at the Newberry Library on such topics as philology, paleography, and archival sciences. Specific topics and any additional prerequisites announced in schedule of classes each time course is offered. Retakable w/topic chg to 9 cr max. Prereq: grad st; cons major adviser & chair of Renaissance Advisory Comm

INTERNATIONAL STUDIES

School/College: College of Letters and Science

No Degree Conferred: Courses Only

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

550 Senior Seminar in International Studies: (Subtitled). 3 cr. U/G.
Interdisciplinary seminar with emphasis on functional/regional problems in world affairs. Retakable w/chg in topic to 9 cr max. Prereq: declared Intl Stds major or cons instr or prog coord.

KINESIOLOGY

- Phone: (414) 229-6080
- Fax: (414) 229-4242
- E-mail: aswartz@uwm.edu

School/College: College of Health Sciences

Degree Conferred:
- MS in Kinesiology

Overview

The Master of Science degree in Kinesiology is a research-oriented program, multidisciplinary in nature, encompassing five human movement science disciplines: Biomechanics, Exercise Physiology, Motor Control, Sport and Exercise Psychology, and Sociology of Physical Activity. Each of the five subdiscipline areas is supported by a research laboratory and at least one graduate faculty member holding a PhD and conducting ongoing research in the area. More than a dozen graduate faculty supervise thesis research, advise graduate students, and deliver the graduate curriculum.

Many of our current students and graduates work full-time as educators and health professionals and complete their degrees on a part-time basis. The program is designed to accommodate their needs as well as those of a growing cohort of full-time students.

At present, the program annually supports ten half-time teaching assistants. In addition, a limited number of research assistantships and/or project assistantships become available on a year-to-year basis as faculty procure research grants and contracts.

Graduate Faculty

Professors

Duncan, Margaret C., Ph.D., Purdue University
Meyer, Barbara B., Ph.D., Michigan State University
Snyder, Ann C., Ph.D., Purdue University

Associate Professors

Earl Boehm, Jennifer, Ph.D., Pennsylvania State University
O'Connor, Kristian M., Ph.D., University of Massachusetts-Amherst
Sander, Erika, Ph.D., University of California-Berkeley
Strath, Scott J., Ph.D., University of Tennessee-Knoxville

Assistant Professors

Cobb, Stephen, Ph.D., Georgia State University
Huddleston, Wendy, Ph.D., Medical College of Wisconsin
Moerchen, Victoria, Ph.D., University of Wisconsin-Madison
Neighbors, Lori, Ph.D., Cornell University
Papaioannou, George, Ph.D., University of Strathclyde
Smith, J. Carson, Ph.D., University of Georgia
Swartz, Ann M., Ph.D., University of Tennessee-Knoxville
Zalewski, Kathryn, Ph.D., University of Wisconsin-Milwaukee

Master of Science in Kinesiology

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

1. A bachelor's degree in kinesiology, biology, nursing, occupational therapy, physical education, psychology, sociology, physical therapy, zoology or equivalent preparation.
2. Undergraduate coursework in the two subdiscipline study areas selected by the student as indicated in the application/personal statement (e.g., exercise physiology and sociology).
3. Submission of scores on the General Test of the Graduate Record Examination.
4. Submission of two letters of recommendation.
5. All materials must be received by January 15th for full consideration for the following Fall.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses. The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree. Applicants with undergraduate majors in areas other than those noted in this section may be admitted on a similar basis.

An applicant who does not meet minimum departmental or Graduate School entrance requirements, but meets Graduate School requirements for a probationary admission (see the Admission Requirements section) should contact the Graduate Program Director for additional probationary entrance requirement information.

Major Professor as Advisor

The Graduate School requires that each student have a major professor to advise, supervise and approve the program of study before registering for courses. Each student will be assigned an advisor upon admission based on the declared area of concentration.

Credits and Courses

The minimum degree requirement is 33 graduate credits for Option A and B. Option A students must take 9 credits of core courses: Seminar in Human Movement Sciences, Statistical Analysis in the Health Sciences, and Survey of Human Movement Sciences Research. Option B students must take 6 credits of core courses: Seminar in Human Movement Sciences, and Statistical Analysis in the Health Sciences.

Students are expected to complete coursework in three of the five subdiscipline areas of study. All students are expected to identify a primary subdiscipline of interest and at least one supporting subdiscipline area. Students are encouraged to take supplemental graduate courses in other UWM graduate programs.

Option A: Thesis Option

Students prepare a research thesis, which will earn 6 credits within the required 33 graduate credit minimum. Each student is responsible for identifying a major professor and a thesis committee before completing 12 graduate credits. The thesis committee should consist of a minimum of three graduate faculty: the major professor from the student's primary subdiscipline, a departmental faculty member from the supporting subdiscipline, and one other departmental or other UWM graduate faculty member. The thesis committee approves a program of studies designed to lead the student into the thesis research area. To make subsequent changes, the student must petition the departmental Graduate Faculty Committee prior to any intended change.

Comprehensive Examination

The student must pass a comprehensive oral examination in defense of the completed thesis.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Option B: Non-Thesis Option

Of the 33 graduate credits required, students must successfully complete 6 credits of HMS 891 - Research Seminar; 3 credits with the major professor and 3 credits with a professor representing the supporting area.

Comprehensive Examination

The student must pass a comprehensive written examination first in the primary area of concentration and then in the secondary area of concentration.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

411 (Hum Kin 411) Design and Analysis of Adult Fitness. 3 cr. U/G.
Selected methods and techniques for assessing physical fitness condition in normal healthy adults. Includes guidelines for graded exercise testing and exercise prescription. Prereq: jr st; HMS 330(Hum Kin 330).

520 (Hum Kin 520) Advanced Biomechanics. 3 cr. U/G.
Emphasis on application of mechanical concepts in biomechanics research. Relationships among mechanics, energetics and control of human movement. Prereq: jr st; grade of C or better in Hum Kin 320(P), Math 117(P), Physics 110(R) or 120(R); or grad st or cons instr.

521 Pathoetiology of Musculoskeletal Injury. 3 cr. U/G.
Examination of musculoskeletal injury etilogy, tissue biomechanics, and neuromuscular rehabilitation. Counts as repeat of HMS 590(Hum Kin 590) with similar title. Prereq: jr st; grade of C or better in HMS 320(Hum Kin 320)(P); or grad st or cons inst.

522 Qualitative Analysis of Human Movement. 3 cr. U/G.
Exploration of systematic qualitative analysis of human movement focusing on detecting and correcting faults in technique. Counts as repeat of HMS 590(Hum Kin 590) with same title. Prereq: jr st; grade of C or better in HMS 320(Hum Kin 320)(P); or grad st or cons instr.

525 (effective 01/26/2009) Human Gross Anatomy. 6 cr. U/G.
A comprehensive consideration of the human anatomy including both neuro-musculoskeletal components and internal organ systems. Prereq: grad st; good standing in DPT prog or cons instr

525 Human Gross Anatomy. 6 cr. U/G.
A comprehensive consideration of the human anatomy including both neuro-musculoskeletal components and internal organ systems. Prereq: grad st; good standing in DPT prog or cons instr

526 Introduction to Physical Therapy Practice and Examination Techniques. 3 cr. U/G.
Students will learn roles, professional behavior expectations, and patient examination techniques. Prereq: grad st; good standing in DPT prog or cons instr

527 Kinesiology & Biomechanics of Normal & Abnormal Movement. 3 cr. U/G.
Principles & theories of the biomechanics of human motion presented to develop analytical skills to assess normal & abnormal movement. Prereq: grad st; good standing in DPT prog or cons instr

530 (Hum Kin 530) Advanced Exercise Physiology. 3 cr. U/G.
Advanced study of the physiological responses to exercise and the adaptations to physical training. Prereq: jr st; grade of C or better in HMS 330(Hum Kin 330)(P); Kinesiology major or intended major; or grad st.

532 Electrocardiography Interpretation. 3 cr. U/G.
In depth study of the 12 lead EKG and selected cardiovascular medications encountered in preventative and rehabilitative exercise programs. Counts as repeat of HMS 590(Hum Kin 590) with similar title. Prereq: jr st; grade of C or better in HMS 330(Hum Kin 330)(P); HMS 430(Hum Kin 330)(R); or grad st or cons instr.

536 Physiological Regulation in Exertion & Disease. 2 cr. U/G.
Overview of the physiological basis of activity. Prereq: grad st; good standing in DPT prog or cons instr

540 Introduction to Physical Therapy Practice. 2 cr. U/G.
The multiple roles of the physical therapist as a professional. Prereq: grad st; good standing in DPT prog or cons instr

541 Clinical Foundations of the Physical Therapy Examination. 5 cr. U/G.
Instruction in the techniques of examining patients/clients. Prereq: grad st; good standing in DPT prog

542 Physical Agents. 3 cr. U/G.
The physiological basis, scientific rationale for, and clinical application of thermal, electrophysiology/ electrotherapy and electromagnetic physical agents. Prereq: grad st; good standing in DPT prog or cons instr

550 (Hum Kin 550) Psychological Aspects of Human Movement. 3 cr. U/G.
Study of the relationships between psychological factors and human physical activity. Introduction to research relevant to sport and exercise psychology. Prereq: jr st; must have obtained a grade of C or better in HMS 350(Hum Kin 350)(P) or cons instr.

551 (Hum Kin 551) Psychology of Injury/Illness/Disease: Implications/Strategies for Rehab. 3 cr. U/G.
Explores the psychological aspects of health enhancement, disease prevention, and rehabilitation as well as the integration of behavioral and biomedical sciences in treating illness. May be used by undergrads to repeat HMS 590(Hum Kin 590) with same title. Prereq: Psych 101(P).

552 Psychology of Personal Excellence. 3 cr. U/G.
Research on elite athletes, performing artists, and corporate executives is used to discuss characteristics of peak performance and identify strategies to facilitate personal excellence. Counts as repeat of HMS 590(HUM KIN 590) w/same topic. Prereq: jr st, grade of C or better in HMS 350(HUM KIN 350)(P); or grad st or cons instr.

553 Medical Physiology. 4 cr. U/G.
Physiological principles related to rehabilitation in physical therapy practice setting and interaction of physiological systems during normal activities and after injury or disease. Prereq: grad st; good standing in DPT prog or cons instr

555 (effective 01/26/2009) Exercise Psychology. 3 cr. U/G.
Psychological antecedents and consequences of physical activity in relation to mental health and public health. Counts as repeat of HMS 590 with same topic. Prereq: jr st; Grade C or better in HMS 350(P) or cons instr.

561 (Hum Kin 561) Control of Goal-Directed Voluntary Movement. 3 cr. U/G.
An introduction to major theoretical and empirical perspectives used to examine generation and control of skilled, functional motor activity. Prereq: jr st; must have obtained a grade of C or better in HMS 461(Hum Kin 461)(P) or cons instr.

565 Motor Behavior. 2 cr. U/G.
The theoretical & research evidence basis for normal & disordered movement via motor control, motor learning, & motor development literature. Prereq: grad st; good standing in DPT prog

566 Functional Neuroanatomy. 3 cr. U/G.
The anatomical basis of neuroscience in physical therapy. Prereq: grad st; good standing in DPT prog or cons instr

570 (Hum Kin 570) Sociological Aspects of Physical Activity. 3 cr. U/G.
Relationships between sociological factors and human physical activity. Introduction to research relevant to the sociology of sport and other forms of physical activity. Prereq: jr st; must have obtained a grade of C or better in HMS 351(Hum Kin 351)(P) or cons instr.

575 (effective 01/26/2009) The Social Construction of Obesity. 3 cr. U/G.
Examines how obesity is socially constructed and how it shapes conceptions of fitness and physical activity. Counts as repeat of HMS 590 with same topic. Prereq: jr st; grade of C or better in HMS 351(P); or cons instr.

590 (Hum Kin 590) Current Topics in Human Kinetics: (Subtitled). 1-3 cr. U/G.
The specific topic will be announced in the Schedule of Classes each time the course is offered. May be repeated to max of 9 cr. Prereq: jr st, cons instr for grad cr.

635 Pathophysiology. 2 cr. U/G.
The general inflammatory and specific pathologies of the various organ systems. Prereq: grad st; good standing in DPT prog or cons instr

640 Scientific Principles of Interventions. 5 cr. U/G.

The basic therapeutic interventions used to treat impairments and functional limitations in the different biological systems that lead to movement dysfunction. Prereq: grad st; good standing in DPT prog; graduate level Human Gross Anatomy course with lab; Anatomy/physiology, physics, 8 cr each with labs.

641 Cardiopulmonary Evaluation & Treatment. 3 cr. U/G.

The normal and abnormal structure and function of the cardiovascular, pulmonary and lymphatic systems with emphasis on medical and other therapeutic strategies. Prereq: grad st; good standing in DPT prog or cons instr

642 Professionalism and Ethos of Care. 3 cr. U/G.

The ethics of professional practice, fiduciary relationships, rights, duties associated with the patient/therapist relationship, and the role character plays in ethical decision-making. Prereq: grad st; good standing in DPT prog

643 Integument System. 2 cr. G.

Exploration of factors predisposing skin to breakdown; preventative measures, specific examination, and intervention techniques utilized in treating burns, wounds, and amputations. Prereq: Grad st, admis to DPT program; or cons instr.

680 Clinical Fieldwork I. 1 cr. U/G.

The student will be assigned to a clinically based learning experience with an emphasis on practicing recently learned clinical skills on a patient population. Prereq: grad st; good standing in DPT prog or cons instr

681 Fieldwork II: Basic Skills Experience. 2 cr. G.

Clinically based learning experience focusing on patient evaluation and treatment skills while fostering professional behavior through clinical mentorship. Prereq: grad st, admis to DPT program; HMS 680(P); or cons instr.

701 Seminar in Human Movement Sciences. 1-3 cr. G.

Research in the Human Movement Sciences subdisciplines including critical review of theories, perspectives and methods. Faculty, student presentations of current work. Retakable to 3 cr max. Prereq: grad st

702 (Hum Kin 702) Statistical Analysis in the Health Sciences. 3 cr. G.

Univariate, bivariate, and multivariate analyses as they apply to health science research. Prereq: grad st; intro level statistics course at U/G or G level.

703 (Hum Kin 703) Survey of Research in the Human Movement Sciences. 3 cr. G.

Methods for multi-disciplinary human movement inquiry; problem/statistical design; critique of available literature; preliminary thesis/project design. Prereq: grad st; HMS 702(Hum Kin 702)(P).

705 Foundations of Clinical Research. 2 cr. G.

Research methodology with an emphasis on clinical research. Prereq: grad st; good standing in DPT prog or cons instr

706 Research & Applied Statistics in Physical Therapy. 3 cr. G.

Specific quantitative research designs and statistics with an emphasis on clinical research; methods for critically evaluating research literature. Prereq: grad st, admis to DPT program; or cons instr.

708 Instrumentation. 2 cr. G.

Concepts related to collecting movement data to answer clinical questions, specifically focusing on motion capture, force measurement, and electromyographic measurement methods. Prereq: grad st, admis to DPT program; or cons instr.

709 Research Practicum. 1 cr. G.

Practical guided clinical research project with faculty supervision. May be retaken to 2 cr max. Prereq: grad st, admis to DPT program; or cons instr.

710 Evidence Based Practice: Levels of Evidence. 1 cr. G.

Strategies for evaluating the evidence underlying physical therapy practice as a framework for creating and evaluating best practice decisions. Prereq: grad st, admis to DPT Program; or cons instr.

711 Evidence Based Practice: Interventions. 1 cr. G.

Focus on information access and retrieval from research literature used to inform physical therapy interventions for treatment of movement disorders. Prereq: grad st, admis to DPT Program; or cons instr.

712 Evidence Based Practice: Tests & Measures. 1 cr. G.

Focus on the critical analysis of published clinical research related to physical therapy tests and measures. Prereq: grad st, admis to DPT program; or cons instr.

713 Professional Issues in Physical Therapy. 1 cr. G.

Strategies for growth & adaptation of physical therapy practice in the context of a changing health care environment. Prereq: grad st; valid license to practice physical therapy or cons instr

714 Evidence for Practice I. 3 cr. G.

Provides clinicians with a rubric for searching & evaluating the published literature supporting physical therapy practice & informing best practice decisions. Prereq: grad st; valid license to practice physical therapy or cons instr

715 Evidence for Practice II. 3-6 cr. G.

Synthesis of prior coursework in the development and presentation of a clinical practice decision supported with best evidence practices. Retakable to 6 cr max. Prereq: grad st; valid license to practice physical therapy.

716 Seminar: The Culture of Evidence. 1 cr. G.

The role of evidence in physical therapy clinical decision making with application to current interventions. Prereq:grad st; valid license to practice physical therapy or cons instr

717 Pharmacology In Rehabilitation. 2 cr. G.

Pharmacologic agents encountered in physical therapy rehabilitation settings focusing on pharmacodynamics, pharmacokinetics, biotransformation of drugs, and clinical application for relevant drug classifications. Prereq: grad st, admis to DPT Program; or cons instr

718 Clinical Radiology. 1-2 cr. G.

Medical diagnostics emphasizing indications & implications for imaging studies used to augment information obtained from the physical therapy examination. Prereq: grad st, admis to DPT Program; or cons instr

720 (effective 01/26/2009) Biomechanics Research Methods. 3 cr. G.

Introduction to advanced biomechanics collection techniques. Course focuses on basic programming, data collection/analysis, and presentation skills. Counts as repeat of HMS 590 with same topic. Prereq: grad st; HMS 520 (C); or cons instr

725 (Hum Kin 725) Interdisciplinary Themes in Biomechanics. 3 cr. G.

Emphasis on biomechanical research themes of an interdisciplinary character. Readings drawn from primary research literature. Prereq: grad st; HMS 520(Hum Kin 520)(P) or cons instr.

730 (Hum Kin 730) Advanced Metabolic/Endocrine Physiology of Exercise. 3 cr. G.

Study of muscle function, fuel utilization, endocrine function and temperature regulation during exercise and training. Prereq: grad st; HMS 530(Hum Kin 530).

731 (Hum Kin 731) Advanced Cardiorespiratory Physiology of Exercise. 3 cr. G.

Examination of selected mechanisms regulating cardiovascular and pulmonary adjustments to acute and chronic exercise. Prereq: grad st; HMS 330(Hum Kin 330); HMS 530(Hum Kin 530)(R) & Bio Sci 715(R).

732 Physical Activity Epidemiology. 3 cr. G.

The role of physical activity in the prevention and treatment of various chronic conditions and diseases. Prereq: grad st; HMS 330 w/ grade of C or better (P) or cons instr

733 Advanced Physiological Assessment. 3 cr. G.

Designed to introduce students to advanced physiological testing techniques. Assumes knowledge of basic exercise testing skills, exercise physiology principles. Prereq: grad st; HMS 530(C) or cons instr

740 Musculoskeletal: Spine. 3 cr. G.

Evaluation and treatment techniques for spinal dysfunction and injury including mechanical assessment, postural training, therapeutic exercise, manual therapy, and

modalities. Prereq: grad st, admis to DPT Program; or cons instr

741 Musculoskeletal System: Lower Extremities. 3 cr. G.

Orthopedic physical therapy evaluation and treatment aspects of lower extremity musculoskeletal problems involving skeletal, connective tissue and muscular components. Prereq: grad st, admis to DPT Program; or cons instr.

742 Musculoskeletal: Upper Extremities. 3 cr. G.

Orthopedic physical therapy evaluation and treatment aspects of upper extremity musculoskeletal problems involving skeletal, connective tissue and muscular components. Prereq: grad st, admis to DPT Program; or cons instr.

743 Health Systems Review. 2 cr. G.

Provides systems overview of screening procedures necessary to provide a comprehensive physical therapy diagnosis with an emphasis on screening for referral. Prereq: grad st; valid license to practice physical therapy or cons instr

744 Healthcare Systems and Administration. 3 cr. G.

Practice of management skills in physical therapy consistent with practice in the U.S. health care system and current practice environments. Prereq: grad st, admis to DPT Program; or cons instr

745 Health Promotion/Wellness for Physical Therapy Practice. 2 cr. G.

Explores many aspects of health / wellness. Prereq: grad st; good standing in DPT prog or cons instr

746 Case-based Clinical Decision Making. 2 cr. G.

Clinical decision-making in physical therapy including formulation of a diagnosis and plan of care supported by evidence from literature. Prereq: grad st, admis to DPT Program; or cons instr.

761 (Hum Kin 761) Concepts of Human Motor Control. 3 cr. G.

A systematic examination of neuromotor control mechanisms and critical review of research in human motor behavior focusing on variables limiting or facilitating performance and/or skill acquisition. Prereq: grad st, HMS 561(Hum Kin 561)(P) or cons instr.

762 (Hum Kin 762) Research Practicum in Motor Control. 3 cr. G.

Demonstration/participation laboratory focused on human motor control experimental design. Topics include sampling, subject protection, techniques for quantification of motor performance characteristics and neuromuscular correlates. Prereq: grad st; HMS 561(Hum Kin 561)(P) or cons instr.

765 Neuromuscular: Adult. 4 cr. G.

Application of motor control and learning, neuroanatomy, and neurophysiology to physical therapy examination and treatment of adults with neurological diagnosis. Prereq: grad st, admis to DPT Program; or cons instr.

766 Neuromuscular: Pediatric. 4 cr. G.

Pediatric onset diagnosis, related examination, interventions, clinical management, and legislation impacting pediatric physical therapy practice. Prereq: grad st, admis to DPT Program; or cons instr.

780 Clinical Teaching. 2 cr. G.

Exploration of patient education intervention focusing on patient adherence in the context of learning theory, adult learning, and learning domains. Prereq: grad st, admis to DPT Program; or cons instr.

798 Independent Project. 1-6 cr. G.

Student research in consultation with and supervised by a graduate faculty member. Retakable w/ chg in topic to 6 cr max. Prereq: grad st; cons instr

799 (Hum Kin 799) Independent Reading. 1-3 cr. G.

Independent study of a topic selected by the student in consultation with the supervising graduate faculty member. May be repeated with change in topic to max of 6 cr. Prereq: grad st; cons instr.

822 (Hum Kin 822) Biomechanics Research Practicum. 3 cr. G.

Addresses research design issues, data collection and reduction techniques. Validity, reliability, and theory of biomechanics instrumentation systems (videography, cinematography, electromyography, force/torque transduction). Prereq: grad st; HMS 725(Hum Kin 725)(P) or cons instr.

830 Adaptations to Physiological Stress. 3 cr. G.

Physiological factors related to performing physical activity and exercise on a chronic basis; various environmental influences on physical performance. Prereq: grad st; HMS 530 (grade of C or better)

850 (Hum Kin 850) Seminar in Psychological Aspects of Physical Activity: (Subtitled). 3 cr. G.

Advanced seminar on selected topics in the psychology of physical activity. May be repeated with change in topic to max of 6 cr. Prereq: grad st; HMS 550(Hum Kin 550)(P) or cons instr.

851 (Hum Kin 851) Psychological Factors in Preventive and Rehabilitative Exercise. 3 cr. G.

Advanced seminar in exercise psychology. Personal and social psychological factors relevant to preventive and rehabilitative exercise contexts are examined. Prereq: grad st; HMS 550(Hum Kin 550)(P) or cons instr.

860 (Hum Kin 860) Seminar in Motor Control: 3-6 cr. G.

Advanced seminar on selected topics related to motor control and acquisition of movement skill. May be repeated with change of topic to max of 6 cr. Prereq: grad st; HMS 761(Hum Kin 761)(P); cons instr.

870 (Hum Kin 870) Seminar in Sociological Aspects of Physical Activity: (Subtitled). 3 cr. G.

Advanced seminar on selected topics in sociology of physical activity. May be repeated with change in topic to max of 6 cr. Prereq: grad st; HMS 570(Hum Kin 570)(P) or cons instr.

871 (Hum Kin 871) Socialization and Physical Activity. 3 cr. G.

Advanced seminar on research relevant to the development/lack of development of physically active lifestyles. Prereq: grad st; HMS 870(Hum Kin 870)(P) or cons instr.

888 (Hum Kin 888) Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

890 (Hum Kin 890) Research Project. 1-3 cr. G.

Preparation of a research project under the supervision of the student's major professor. Not open to students selecting options A or B. Prereq: grad st.

891 (Hum Kin 891) Research Seminar. 3 cr. G.

Advanced seminar on the synthesis and critique of research literature within the student's primary and secondary subdisciplines. Not open to option A or C students. Prereq: grad st; completion of all or conc reg in remaining coursework for degree.

895 Research and Thesis. 1-6 cr. G.

Preparation of a thesis under the direction of the student's primary and secondary advisors. Prereq: grad st; cons instr

910 Advanced Seminar in Health Sciences. 1 cr. G.

Faculty, graduate students, and invited guests will present their research and engage in discussion around themes of broad interest, e.g., public health. Retakable to 4 cr max. Prereq: grad st

930 (Hum Kin 930) Practicum and Seminar in Exercise Physiology. 3 cr. G.

Evaluation of current research and methodology in exercise physiology. Prereq: grad st; HMS 730(Hum Kin 730) or HMS 731(Hum Kin 731).

990 (Hum Kin 990) Research and Thesis. 1-6 cr. G.

Preparation of a thesis under the direction of the student's primary and secondary advisors. May be repeated to max of 6 cr. Not open to students selecting options B or C. Prereq: grad st.

991 Doctoral Dissertation. 1-12 cr. G.

Dissertation research Prereq: grad st; admit to Ph.D. candidacy

999 Advanced Independent Study. 1-6 cr. G.

Independent study on topic selected by student and supervising graduate faculty member. Prereq: grad st; cons instr

LIBERAL STUDIES

- Phone: (414) 229-5963
- Fax: (414) 229-5964
- E-mail: mls@uwm.edu

School/College: College of Letters and Science

Degrees Conferred:

- Master of Liberal Studies

Overview

The College of Letters and Science offers an interdisciplinary graduate program leading to a Master of Liberal Studies. The MLS curriculum consists of small introductory seminars, special topics courses conceived exclusively for the program, electives taken in specific departments, and a final thesis or independent project. All courses are taught by graduate faculty drawn primarily from the College of Letters and Science and augmented by other interested instructors from across the University. Such faculty diversity allows students to expand their cultural and intellectual horizons through a carefully structured course of study that encourages multiple perspectives on important issues and integration of knowledge across disciplines.

The MLS program is housed in the internationally respected Center for Twenty-first Century Studies, which ensures access to leading scholars, outstanding facilities, special lectures and other events. Each fall a limited class of new students is admitted in order to maintain an intimate learning environment, and all courses are offered during evenings or weekends. Although the MLS is not a traditional graduate degree that focuses on a single academic field or set of professional skills, its emphasis on critical thinking, imaginative reflection, ethical consideration, and effective communication carries substantial value in both private and public life.

Graduate Faculty

(Professors' home departments appear in parenthesis)

Professors

Hayes, Jeffrey R., Ph.D., University of Maryland (Art History), Program Director
Koethe, John L., Ph.D., Harvard University (Philosophy)
Merrick, Jeffrey, Ph.D., Yale University (History)
Roberts, Sheila, D. Litt., University of Pretoria (English)
Schwartz, Robert, Ph.D., University of Pennsylvania
Schwertfeger, Ruth, B. Litt., Oxford University (Foreign Languages and Linguistics)
Sherman, Daniel J., Ph.D., Yale University (History)
Verdier, Gabrielle, Ph.D., Yale University (French, Italian, and Comparative Literature)

Associate Professors

Clark, George, Ph.D., Florida State University
Hansen, Anne, Ph.D., Harvard University (History)

Assistant Professor

Moline, Lisa, M.F.A., University of Wisconsin-Madison (Visual Art)

Master of Liberal Studies

Admission

To be considered for admission to the Master of Liberal Studies, an applicant must meet the requirements for admission to the Graduate School. For non-native speakers of English, demonstration of English proficiency for the MLS requires a TOEFL (Test of English as a Foreign Language) score of 600 on the old exam or 250 on the new, or a score of 7.0 on the IELTS (International English Language Testing System) exam, as well as a score of 50 on the TSE (Test of Spoken English). In addition, the applicant must submit an essay (two pages) describing why s/he is interested in pursuing graduate study in an interdisciplinary program and describing the educational background and life experiences that s/he brings to the program. An interview with the director of the program also is required.

Major Professor as Advisor

As specified in the regulations of the Graduate School, a major professor will be assigned to every person enrolled in the program to advise and supervise his or her work. Those admitted to the program will consult with the Director of the Master of Liberal Studies program for assistance in identifying an appropriate advisor. The responsibility of the advisor will be to assist in selecting a cohesive sequence of courses and developing a rationale for that sequence. The major advisor must approve the program of study.

Credits and Courses

Twenty-seven credits are required for the MLS degree, distributed as follows:

Core courses (8 cr)

All students must take a required introductory two-course sequence (4 credits for each course) designed to orient the individuals to the program, to establish a common base of knowledge in an interdisciplinary context, and to create a sense of intellectual community among the participants, many of whom may be re-entering the world of formal education.

Special topics courses (6 cr)

Participants must complete at least two courses from an array of special topics courses in a seminar format (3 credits each) offered under the LibrlSt curricular area number.

Elective courses (9 cr)

Participants select elective courses to total 9 credits from special topics courses offered under the MLS curricular area code, graduate courses offered within departments, and independent study (LibrlSt 799). Although the core and special topics courses that are designed specifically for the Master of Liberal Studies will be emphasized in all programs of study, participants may wish to take graduate courses offered by departments or to undertake independent study in order to pursue specific interests.

Culminating project (4 cr)

Participants must complete a culminating project, undertaken in a 4 credit independent study course (LibrlSt 798). This project, which must be interdisciplinary in nature, can take the form of a traditional research paper or thesis, but it also may adopt an alternative creative, performative, or occupationally-related practical model. The project must be approved by the student's advisor and the program director.

Transfer credits

Individuals with prior graduate course work may receive permission to count up to 9 credits of that work toward the Master of Liberal Studies if the Advisory Committee accepts the courses as relevant to the program of study and if the courses meet Graduate School requirements for transfer. Liberal Studies core courses and the culminating project course must be taken at the University of Wisconsin-Milwaukee.

Time Limit

All degree requirements must be completed within five years of initial enrollment.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

701 Traditions and Transformations I: (Subtitled). 4 cr. G.
A fundamental contemporary issue explored through a historical perspective; emphasis on the humanities. Interdisciplinary resources, methods, theories. Required special programs outside regular class hours. Not retakable. Prereq: grad st; admis to MLS Prog.

702 Traditions And Transformations II: (Subtitled). 4 cr. G.

Continuation of LibrlSt 701, exploring a contemporary issue within a more recent modern/postmodern context. Required special programs outside regular class hours emphasize course topics. Not retakable. Prereq: grad st; LibrlSt 701(P)

721 Special Topics in Liberal Studies: (Subtitled). 3 cr. G.

Topics in human culture emphasizing the pervasiveness of a particular idea, belief, process, or other cultural construct in many facets of human society. Retakable w/chg in topic to 9 cr max. Prereq: grad st; admis to MLS Prog

722 Special Topics in Contemporary Cultural Studies: (Subtitled). 3 cr. G.

Topics in contemporary culture; emphasis on literature, experimental arts/film, mass culture, performance; new approaches to study of culture, including media theory, multi-culturalism, feminism, post-colonialism. Retakable w/chg in topic to 9 cr max. Prereq: grad st; admis to MLS Prog

797 Special Topics In International Liberal Studies: 3 cr. G.

Examination of a belief, idea, process, or other cultural construct in an international setting. Retakable w/chg in topic to 9 cr max. Prereq: grad st; admis to mls prog

798 Liberal Studies Master's Project. 4 cr. G.

Culmination of student's studies in MLS Program; may take any form appropriate to interdisciplinary focus of student's study prog, e.g. research paper, performance, literary/exhibition project. Prereq: grad st; 20 cr in the MLS Prog.

799 Independent Work in Liberal Studies. 1-3 cr. G.

Independent reading or project; topic selected in consultation with supervising professor. Prereq: grad st; admis to MLS Prog.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr will be assessed. Prereq: grad st.

901 Seminar on Philosophical Approaches to Science. 3 cr. G.

The nature and function of sciences, the logic of the scientific method as it relates to health, and implications of research and practices in health care. C L Sci 901 & LibrlSt 901 are jointly offered; they count as repeats of one another. Prereq: grad st.

LIBRARY AND INFORMATION SCIENCE

- Phone: (414) 229-4707
- Fax: (414) 229-4848
- E-mail: info@sois.uwm.edu

School/College: School of Information Studies

Degrees Conferred:

- Master of Library and Information Science
- Doctor of Philosophy in Information Studies

Overview

The School of Information Studies prepares students for careers in the information professions. The School's array of graduate programs provides students with the opportunity to develop attitudes associated with progressive information services, and to develop an understanding of the value, role, and application of modern technology as it relates to library operations and the transfer of information.

In harmony with the mission of the University of Wisconsin-Milwaukee, a major urban research institute, the School of Information Studies strives to make significant contributions towards extending and enhancing the quality of information services and the promotion of information and technological literacy to a diverse society. The School of Information Studies is committed to excellence in instruction, research, and service.

Goals of the school are:

1. To prepare professionals who are able to provide leadership and adapt to change in a technological and knowledge-based environment for careers in libraries, school media centers, information systems, and related areas, according to accepted professional standards.
2. To enrich the library and information science profession through recruitment of students with strong academic skills from diverse cultural, geographic, and subject backgrounds.
3. To enable undergraduate students to achieve qualifications to pursue careers in the information professions through the provision of degree and certificate programs.
4. To enable students to develop specializations in the information professions at the graduate level through the provision of single and dual degree programs.
5. To promote a research orientation through participation in the Doctor of Philosophy degree program.
6. To contribute to the international knowledge base of library and information science through research and publication.
7. To facilitate the development, provision, and evaluation of library and information services through consultation services to individual organizations and leadership in professional associations locally, statewide, nationally, and internationally.
8. To offer opportunities for professionals and the wider community to update their skills and knowledge through advanced and continuing education courses, workshops, and programs offered nationally and internationally.

Graduate Faculty

Professors

Aman, Mohammed, Ph.D., University of Pittsburgh
Britz, Johannes, D.D., University of Pretoria
Lipinski, Tomas, Ph.D., University of Illinois at Urbana-Champaign
Olson, Hope, Ph.D., University of Wisconsin-Madison
Wolfram, Dietmar, Ph.D., University of Western Ontario

Associate Professors

Buchanan, Elizabeth, Ph.D., University of Wisconsin-Milwaukee
Dimitroff, Alexandra, Ph.D., University of Michigan
Jeong, Wooseob, Ph.D., Florida State University
Koohang, Alex, Ph.D., Southern Illinois University-Carbondale
Lee, Hur-Li, Ph.D., Rutgers University
Walker, Thomas, Ph.D., University of Illinois at Urbana-Champaign
Xie, Hong, Ph.D., Rutgers University
Zhang, Jin., Ph.D. University of Pittsburgh

Assistant Professors

Du Plessis, Jacques, Ph.D., Utah State University
Haigh, Maria, Ph.D., Drexel University
Haigh, Thomas, Ph.D., University of Pennsylvania
Henderson, Laretta, Ph.D., University of Iowa
Mu, Xiangming, Ph.D., University of North Carolina - Chapel Hill
Newell, Terrance, Ph.D., University of Wisconsin-Madison

Master's Programs

The purpose of the MLIS program is to prepare librarians and information professionals who are able to manage change in an urbanized, technologically oriented, and knowledge-based society. The MLIS program provides a systematic course of study which enables individuals with a strong service orientation to apply principles of library and information science, use current methods and tools, and recognize the value of research.

Students may elect to specialize according to the type of library or information service which best meets their needs: i.e., school, public, academic, or special; or to follow a more generalized approach. A concentration in archival studies is available.

Graduates of the Master of Library and Information Science degree program are expected to demonstrate the following competencies:

1. To apply scientific principles in developing and managing information resources designed to meet user needs and interests.
2. To analyze, describe, and organize resources for effective and efficient retrieval and dissemination of information.
3. To utilize knowledge of information sources, services, and systems to meet the informational needs of users.
4. To apply management principles in planning, developing, marketing, and evaluating library and information services.
5. To work in specialized areas of library and information service, utilizing knowledge obtained from concentrations within the School and in other disciplines.
6. To build upon current knowledge of information and communication theories and technologies in planning, design, development, and delivery of information services.

The master's degree program is designed to support each of these objectives with appropriate coursework and educational experiences.

The School of Information Studies in collaboration with the School of Education offers post-bachelor's programs leading to State of Wisconsin licensing as Initial Instructional Library Media Specialist, Instructional Library Media Specialist, and Instructional Library Media Supervisor.

Students admitted to the Master of Library and Information Science degree program can incorporate in their degree program the courses for these licenses to the extent that these courses satisfy the degree requirements, either as required core courses or as electives. Licenses will be granted only to those persons who are eligible to hold a Wisconsin license to teach in the elementary or secondary schools or who have completed an approved elementary or secondary classroom teacher preparation program. For additional information about these licenses and their relationship to the master's degree, consult the School Library Media Coordinator.

The advanced courses offered by the School of Information Studies may be elected on a non-degree basis by post-master's students who

wish to continue their professional education or special competence in some phase of urban library and information services. The School's graduate courses are also open to graduate students in other fields of study, provided that they have completed the appropriate basic courses (or their equivalent).

Coordinated Degree Programs

In cooperation with the Peck School of the Arts; the College of Health Sciences; and the College of Letters and Science, the School of Information Studies offers the following coordinated degree programs:

MS/MLIS

A **Master of Science in Anthropology**/Master of Library and Information Science to prepare students for positions as curators of museum libraries and as information specialists and researchers for local history collections and state historical societies, 51 credits.

MA/MLIS

A **Master of Arts in English**/Master of Library and Information Science program to prepare students for positions as humanities librarians and curators of special subject collections in the humanities, 51 credits.

MAFLL/MLIS

A **Master of Arts in Foreign Language and Literature**/Master of Library and Information Science program to prepare students for positions as librarians in a variety of libraries and curators of special subject collections, 51 credits.

MA/MLIS

A **Master of Arts in Geography**/Master of Library and Information Science program to prepare students for positions as map librarians, 48 credits.

MS/MLIS

A **Master of Science in Health Care Informatics**/Master of Library and Information Science program to prepare students for positions as clinical informationists, 56 credits.

MA/MLIS

A **Master of Arts in History**/Master of Library and Information Science program to prepare students for positions as archivists, 48 credits.

MM/MLIS

Master of Music/Master of Library and Information Studies program to prepare students for positions as music librarians. Students in the MM degree program will pursue a concentration in Music History and Literature, 54 credits.

MS/MLIS

A **Master of Science in Urban Studies**/Master of Library and Information Science program to prepare students for positions as urban information specialists, 54 credits.

Prerequisite to the award of either degree in these coordinated programs is the simultaneous award of its counterpart degree. For additional information on these programs, see the English, Foreign Language and Literature, Geography, Health Care Informatics, History, Music, and Urban Studies sections of this Web site.

Master of Library and Information Science

Application

The student must apply to both the Graduate School and the School of Information Studies.

Admission

An applicant must meet Graduate School requirements plus the following additional requirements of the School of Information Studies to be considered for admission to the program:

1. Submission of scores on the General Test of the Graduate Record Examination (GRE) or the Miller Analogies Test (MAT). (GRE or MAT scores are currently required of domestic applicants and will be required of international applicants beginning with the summer 2004 admission term.) The test scores should be sent directly to the SOIS. This requirement will be waived for applicants whose overall undergraduate GPA, as calculated by the UWM Graduate School, is at least 3.00, or who already hold another master's degree or Ph.D., or the equivalent.

2. Applicants from foreign institutions are required to submit the Test of English as a Foreign Language (TOEFL) score. The minimum acceptable score is 550 PBT, 213 CBT, or 79 iBT. A score of 6.5 or higher on the International English Language Testing System (IELTS) may be submitted in lieu of the TOEFL.

3. Two letter of recommendation from persons who can testify to the applicant's likelihood of success in the master's program in library and information science. References from former teachers or employers are preferred.

No prior coursework in library/information science is required. A student whose undergraduate grade point average is below 2.75 (4.0 basis) may be considered for admission on probation. See the Admission on Probation section of this Web site.

Faculty Advisor

Each student is assigned a faculty advisor in the School of Information Studies at the time of admission to the master's program. The name of the faculty advisor is included in the student's letter of admission and may also be obtained from an academic advisor in the School of Information Studies.

Credits and Courses

The minimum degree requirement is 36 graduate credits, 30 of which must be in library and information science and up to 6 of which may be in related areas. Students who have already completed a master's or doctoral degree in a field other than library science may have the library and information science master's program reduced to 30 credits. Under special circumstances, up to 6 of these credits may be from another field in a closely allied area with advisor consent. Students who have completed library science courses at the undergraduate level may, upon request, have their coursework reviewed to determine whether the content was the equivalent of that in required courses in the School of Information Studies Program. However, the establishment of such equivalencies will not reduce the total number of credits required for the master's degree in library and information science, but merely enable the student to avoid unnecessary repetition.

The number of credits needed for each of the coordinated degree programs is 12 credits less than the sum of credits of the two programs if taken separately. All degree requirements of each component program, however, must be satisfied. This includes makeup courses for deficiencies, required courses, and graduation proficiency requirements. The MLIS component of each coordinated program includes 30 credits of SOIS courses including the 12 credits of required courses.

The following are basic required courses:

- **501** Foundations of Library and Information Science, 3 cr.
- **511** Organization of Information, 3 cr.
- **571** Information Access and Retrieval, 3 cr.
- **591** Introduction to Research Methods in Library and Information Science, 3 cr.

These courses (or their equivalent) must be completed by full-time students by the end of their second semester; for part-time students, two of the courses must be completed by the end of the second semester, and all four by the end of the fifth semester for coursework in the School of Information Studies.

Minimum Grade Requirement in the Basic Required Courses

The minimum grade requirement for 501, 511, 571, and 591 is a B. Students who earn a grade of B- or lower have not met the minimum requirement and will be allowed to repeat the core course once. Students are responsible for tuition in the repeated course. Those who do not meet the minimum grade requirements upon repeating the course will be recommended for academic dismissal. Students may not register for a course for which any of the core courses is a prerequisite until the minimum grade requirement is met.

Archival Studies Concentration

The Archival Studies concentration requires 15 credits of coursework planned in conjunction with the student's advisor. Credits for the concentration count as electives for the MLIS. The courses which qualify for the concentration are as follows:

Required: Students MUST take the following courses

- L&I SCI 681: Introduction to Modern Archives Administration
- L&I SCI 790: Fieldwork in Archives and Manuscripts
- **Exception:** If a student is working in an archival repository and can show sufficient archival experience, he/she may substitute an additional selected course for L&I SCI 790.

Selection: Students must take at least THREE of the following courses in Archives and Records Management

- L&I SCI 615: Information and Records Management
- L&I SCI 691: Special Topics in Information Science: Electronic Records
- L&I SCI 777: Seminar in Modern Archives Administration
- L&I SCI 778: Archival Outreach: Programs & Services
- L&I SCI 779: Arrangement and Description in Archives
- L&I SCI 791: Topics in Information Organization: Preservation of Contemporary Information Media
- L&I SCI 791: Topics in Information Organization: Preservation of Contemporary Information Media
- L&I SCI 891: Advanced Topics in Library and Information Science: Technology Issues in Archives
- L&I SCI 999: Independent Research

Proficiency Requirement in Library and Information Science

This course of study requires students to demonstrate proficiency in the field of library and information science. There are two options for completing the proficiency requirement: passing a comprehensive examination or completing and successfully defending a thesis.

Comprehensive Examination

Students choosing the comprehensive examination option must successfully pass a written comprehensive examination. A student who fails the examination the first time may repeat it once. However, a student who fails the examination may not select the thesis option.

Thesis Option

Students choosing the thesis option must take at least three credits of thesis coursework in addition to the 36 credits required for the comprehensive examination option, making the minimum credits required for the thesis option 39 credits. However, only 3 credits of thesis coursework may count towards the total degree credit requirement of 39. Those who already have a graduate degree must complete a minimum of 33 credits for this option.

Students who choose the thesis option in the coordinated master's degree programs also need to take an additional 3 credits of thesis coursework. Thus, while total degree credits vary among the coordinated master's programs, the Master of Library and Information Science component of each requires 33 credits of SOIS course work, three of which would be taken as thesis credit. Students pursuing thesis options in both programs will be required to fulfill each program's thesis requirement and complete two separate theses.

Students in the thesis option also must take a minimum of three credits of research methods. More may be required by individual circumstances, but only the first three credits may count toward degree credit requirements. Either 540-890, Research Methods in Library and Information Science, or a comparable course chosen in consultation with the major professor, can contribute towards satisfaction of this requirement. Students must complete the five core courses in addition to the research methods requirement before defense of the thesis proposal can occur.

Students must register for a variable credit thesis research course L&I Sci 540-898: Master's Thesis (1-3 credits), during every semester of thesis work.

Students may select the thesis option at any point in their course of study, but are encouraged to make this decision and form their thesis committee as early as possible to avoid the necessity of taking additional coursework. The faculty advisor assigned to each student upon admission may serve as the student's thesis advisor, but is not required to do so. It is the student's responsibility to enter into a mutually agreed upon advising relationship with a thesis advisor in SOIS, who then serves as chair of the thesis committee. Likewise, a student may withdraw from the thesis option and pursue the comprehensive examination option; however, the student would need to meet the registration and other requirements for the comprehensive examination set forth in SOIS policies and procedures as published in the SOIS Bulletin.

Students must pass an oral examination in defense of the thesis. The thesis defense may be repeated once.

Time Limit

Students in the 36-credit program must complete all degree requirements within seven years of initial enrollment. Students in the 30-credit program must complete all degree requirements within five years of initial enrollment.

Certificate of Advanced Study in Archives and Records Administration

The Certificate of Advanced Study (CAS) in Archives and Records Administration is designed to help working professionals to update their knowledge in core areas of their responsibilities or to develop another specialty in a library-information area. It will enable students to either alter the direction of a career path or to enrich, update, and strengthen their skills and their knowledge of their field.

The CAS candidate will complete 15 credits of course work, planned in conjunction with his or her advisor, and approved by the Dean of the School of Information Studies as an individually designed program suited for the needs and professional objectives of the student. A minimum of 12 credits must be taken in the School of Information Studies. Up to 3 credits may be taken in another school or department of the University of Wisconsin-Milwaukee. Students may obtain up to three credits in independent study which is included as a part of the total approved program.

Instructional Library Media Certification Programs

Initial Instructional Library Media Specialist License

- L&I Sci 510 Introduction to Reference Services and Resources, 3 cr.
- L&I Sci 520 Managing Library Collections, 3 cr.
- L&I Sci 531Organization of Information, 3 cr.
- L&I Sci 540 Management of Libraries and Information Services, 3 cr.
- L&I Sci 550 Introduction to Information Science, 3 cr.
- L&I Sci 631 Cataloging and Classification, 3 cr

- L&I Sci 632 Microcomputers for Information Resources Management, 3 cr.
- L&I Sci 648 Library Materials for Children, 3 cr.
- L&I Sci 658 Library Materials for Young Adults, 3 cr.
- L&I Sci 670 Instructional Technologies, 3 cr.
- L&I Sci 672 School Library Media Programs and Resources, 3 cr.
- L&I Sci 690/990 School Library Practicum, 3 cr.
- L&I Sci 757 Library Services for Children and Young Adults, 3 cr.
- L&I Sci 891 Advanced Topics in Library and Information Science, 1-3 cr.
- CurrIns 701 Curriculum Planning (if not taken previously), 3 cr.
- Ed Psy 330 Introduction to Learning and Development, 3 cr.
- OR
- Ed Psy 631 Cognition: Learning, Problem Solving and Thinking, 3 cr.

Instructional Library Media Supervisor License* (91)

- Ad Ldsp 702 Leadership in Educational Organizations, 3 cr.
- Ad Ldsp 712 Instructional Leadership, 3 cr.
- Ad Ldsp 812 Educational Personnel Administration and Supervision, 3 cr.
- L&I Sci 776 Administration of School Library Media Systems, 3 cr.

*Requires a master's degree in library/media.

Doctor of Philosophy in Information Studies

The Doctor of Philosophy in Information Studies prepares graduates for academic and professional careers where an in-depth knowledge of research processes and evaluation is needed. The program emphasizes the study of the representation, storage, retrieval, use, and impact of information resources on society. Graduates will contribute to the knowledge base of the discipline and will take on leadership roles as scholars and administrators in the discipline and the profession.

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program in regular status:

- Have a cumulative GPA in course work for the Master's degree of at least 3.5 and an undergraduate GPA of 3.0. Applicants possessing a Master of Library and Information Science (or an equivalent degree) are preferred. Applicants with a master's degree in an allied discipline are encouraged to apply, but must complete the four required courses of the MLIS program in addition to the regular course requirements.
- Submit verbal and quantitative scores for the Graduate Record Examination (GRE) taken within the past five years.
- Submit three letters of recommendation from qualified persons who can attest to the applicant's aptitude for doctoral study. At least one letter must be from an academic.
- Submit a writing sample that demonstrates the applicant's analytical and critical thinking skills. This may take the form of a published research paper, term paper from a previous graduate program, or earlier completed thesis.
- Applicants are encouraged to bring at least two years of relevant professional experience prior to entering the PhD program.

Applicants lacking the requisite GPA or academic area may be considered for admission on probation, and may be required to complete preparatory coursework.

Major Professor as Advisor

Unless a student specifically requests a particular faculty member, all doctoral students initially are assigned an "interim" advisor. After the completion of 12 credits, a student is required to designate a faculty member from an approved list of major professors with specialized interests compatible with those of the student to act as the major professor. The major professor is expected to assist the student in planning the remainder of the program of studies, chair the student's preliminary examination committee, supervise the completion of the PhD dissertation, and conduct the dissertation defense meeting. All students should consult the program handbook for additional details on school policies and procedures.

Residence

The student must meet minimum Graduate School residence requirements of one continuous academic year of full-time graduate studies at UWM. This can be satisfied by completing at least 8 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions. Residence credit cannot be earned at the master's level.

Course of Study

To fulfill the credit requirements for the PhD in Information Studies, a student must complete at least 33 graduate credits beyond the master's degree. Students who do not possess a Master of Library and Information Science or the equivalent will be required to complete the four required courses for the MLIS program in addition to the regular program requirements.

The program credits will be distributed as follows:

- A minimum of 12 credits in research methodologies and analysis.
- A minimum of 12 credits in the major area (information policy, information retrieval, organization of information), which includes a doctoral seminar in the major area.
- 9 credits in a minor area, that may be in information studies or another allied discipline relevant to the student's research interests.

Preliminary Examinations / Preparatory Essays

Students will be required to complete the doctoral preparatory essays towards the end of their coursework. The purpose of the essays will be to demonstrate the student's mastery of coursework and relevant subject matter and the student's qualifications to proceed with dissertation research. The essays will consist of three areas: research methods, the major area, and the minor area. The essays will represent non-credit research papers based on topics assigned by the student's doctoral committee, which will consist of at least three members, including one representing the student's minor. The timeline for completion of the essays will be at the committee's discretion. Based on the committee's assessment of the essays, students will be recommended for advancement toward the PhD or academic dismissal from the program. If the essay results are found to be unsatisfactory, the student will have one opportunity to repeat the essay in a future semester after conferral with the major professor on how to prepare for the next attempt.

The preparatory essays must be successfully completed within four years of initial enrollment.

Dissertation Proposal

A doctoral committee of five faculty members will be in place by the time the student undertakes her/his dissertation proposal. The committee will consist of three members from the School of Information Studies, a faculty member in an allied area from outside the School, and a fifth member who may come from SOIS or another discipline. All doctoral committees shall be chaired by a major

professor from the SOIS graduate faculty. Approval of the dissertation proposal, which ordinarily should occur within two semesters after successfully passing the preparatory essays, allows a student to proceed towards completion of the dissertation.

Dissertation

The candidate must write a dissertation which demonstrates her/his ability to formulate a research topic and pursue independent and original investigation that contributes to the knowledge base of the field.

Dissertation Defense

After submission of a reading copy of the dissertation to the student's doctoral committee, the candidate and the major professor will schedule a committee meeting for the purpose of undertaking an oral defense of the dissertation work by the candidate. At the conclusion of the candidate's oral remarks, the dissertation committee will vote on passing the candidate's dissertation work. A majority of the committee must vote to approve the dissertation and recommend granting of the Doctor of Philosophy degree.

Approval of the dissertation by the student's doctoral committee satisfies a final requirement for the PhD degree in Information Studies from the UWM-SOIS.

Time Limit

All components of the PhD program must be completed within seven years of matriculation.

Additional Information for Doctoral Students

For additional information on policies and procedures for doctoral students, please see the Graduate School Doctoral Requirements page.

Other Doctoral Options

Under the auspices of the doctoral program in Urban Education, the School of Information Studies provides doctoral training with a specialization in Educational and Media Technology. Prospective doctoral students wishing to specialize in Educational and Media Technology must first be admitted to the Urban Education Doctoral Program. Admission and general program requirements can be obtained from the Director of Doctoral Studies in Urban Education. This specialization is described in detail in the Urban Education page.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

425 (480) Books, Paper, and Their Preservation. 1 cr. U/G.
History, theory, and practical application of conservation solutions currently practiced by professional conservators. Prereq: jr st.

465 (475) Legal Aspects of Information Products and Services. 3 cr. U/G.
Introduction to legal environment surrounding development and use of information products and services, including intellectual property, and issues specific to internet and other digital mediums. Prereq: jr st.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work levels, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

501 Foundations of Library and Information Science. 3 cr. U/G.
Historical introduction to library and information science (LIS); outline of the role of information agencies in disemminating knowledge to users; overview of research in LIS. Prereq: jr st.

510 Introduction to Reference Services and Resources. 3 cr. U/G.
An investigation into reference services, reference interviews, and organization, including critical examination of basic reference collections for various types of libraries. Prereq: jr st.

511 (531) Organization of Information. 3 cr. U/G.
Introduction to basic concepts in the theoretical, practical, and technological aspects of information organization. Not open for cr to students with cr in L&I Sci 530. Prereq: jr st.

520 Managing Library Collections. 3 cr. U/G.
Theory and practice involved in managing information collections in all formats: selection tools, criteria, methods, collection evaluation, deaccessions. Principles of intellectual freedom are discussed. Prereq: jr st.

540 Management of Libraries and Information Services. 3 cr. U/G.
The library/information center as a service organization. Management of the library/information center: planning, budgeting, decision making, leadership styles, motivation, communication, personnel management. Prereq: jr st.

550 Introduction to Information Science. 3 cr. U/G.
An overview of information science, including: the nature of information bibliometrics, information policy, information retrieval, communications and artificial intelligence. Prereq: jr st.

571 Information Access and Retrieval. 3 cr. U/G.
An overview of the concepts and theory related to information retrieval. Prereq: jr st.

591 Introduction to Research Methods in Library and Information Science. 3 cr. U/G.
An introduction to basic research concepts, methods, and evaluation in library and information science, and applications of research in the information professions. Prereq: jr st.

603 (680) History of Books and Printing. 3 cr. U/G.
The people, ideas, and events in the history of bookmaking from ancient times to the 1890's. Prereq: jr st.

622 (640) Information Marketing. 3 cr. U/G.
Concepts and principles of marketing and strategic planning as they apply to libraries and information agencies; case studies in information brokering and repackaging. Prereq: jr st.

627 (686) Music Librarianship. 3 cr. U/G.
Examination of materials used in obtaining music information and in establishing bibliographic control. Emphasis on reference, library instruction, collection management, and organization of music collections. Prereq: jr st; L&I Sci 511(531)(P), 571(P); or cons instr.

632 Microcomputers for Information Resources Management: 3 cr. U/G.
Use and applications of microcomputers in various library and information management functions. Requires 1-2 hrs of weekly laboratory time. Prereq: jr st & cons instr.

633 (683) Cartographic Resources in Libraries. 3 cr. U/G.
The nature, variety, and history of cartographic resources. How these fit into the world of information and how they differ from traditional library materials. Prereq: jr st; cons instr.

642 (672) School Library Media Programs and Resources. 3 cr. U/G.
A study of the functions of the school library media center as an educational component including service, administration, collection development and utilization of materials. Prereq: jr st; L&I Sci 511(531)(P); 520(P); 571(P); or cons instr.

644 (690) School Library Practicum. 1-3 cr. U/G.
Field experience of 210 hours in elementary and secondary school library media services under faculty and field supervisor guidance. Prereq: jr st; school library media certification program students only; L&I Sci 511(531)(P), 520(P), 571(P) & 642(672)(C); or cons instr.

645 (648) Library Materials for Children. 3 cr. U/G.
Introduction to print and media resources available in library collections; selection procedures, evaluation criteria, access and promotion of use of materials. Prereq: jr st.

646 (658) Library Materials for Young Adults. 3 cr. U/G.

Criteria for evaluation and selection of materials for young adults, emphasizing current resources, techniques of reading guidance and book talks. Prereq: jr st.

650 (681) An Introduction to Modern Archives Administration. 3 cr. U/G.
An introduction to the archives profession, archives administration, main uses of primary sources in academic research, and archival issues regarding the Internet and other technologies. Prereq: jr st.

655 (615) Information and Records Management: 3 cr. U/G.
Principles and practices of information and records management: organizational information needs, retention, schedules, vital records protection, micrographics, records centers and records management policy. Prereq: jr st.

660 (625) Information Policy. 3 cr. U/G.
Explore various aspects of information policy including privacy, intellectual property, and intellectual freedom; covers applicable methodologies. Prereq: jr st.

661 (620) Ethics and the Information Society. 3 cr. U/G.
Ethical traditions, concepts, and principles for the information professions in the global information society; ethical implications of information technologies. Counts as a repeat of L&I Sci 691 with similar topic/title. Prereq: jr st & L&I Sci 110(P); 501(P) or cons instr.

670 Instructional Technologies. 3 cr. U/G.
Traditional technologies, multimedia formats, and computer-based technologies for instructional purposes. No degree cr for students with cr in L&I Sci 668 or 669. Prereq: jr st; L&I Sci 632.

671 (637) Information Storage and Retrieval. 3 cr. U/G.
Fundamental analysis and design principles and theories used in systems for the storage, processing, and retrieval of information. Prereq: jr st & L&I Sci 110(P); 501(C); or cons instr.

675 Organizational Informatics. 3 cr. U/G.
Topical seminar, exploring the relationship between information technology (IT), culture, organizations and the organization of work, cultures, subcultures; sociology of IT work; enterrpise systems; knowledge management; data mining and IT careers. Counts as repeat of L&I Sci 691 with same subtitle. Prereq: jr st & L&I Sci 240(P) & 340(P) & 410(R); or grad st.

682 (635) Digital Libraries. 3 cr. U/G.
Concepts and technologies for development of digital libraries. Topics include tools for multimedia digitization, organization of digital resources, and evaluation of digital libraries and gateways. Prereq: jr st & L&I Sci 110(P); 501(P); or cons instr.

691 Special Topics in Information Science: (Subtitled). 1-3 cr. U/G.
An exploration of current topics in information science. Specific topics and any additional prerequisites will be announced in Schedule of Classes each time course is offered. May be retaken with change in topic to max of 9 cr. Prereq: jr st; cons instr.

711 (631) Cataloging and Classification. 3 cr. G.
Principles and methods of organizing library materials. Fundamentals of descriptive cataloging and primary systems of subject representation. Prereq: grad st; L&I Sci 511(531)(P) or cons instr

714 Metadata. 3 cr. G.
Principles and application of metadata for networked information resource organization, representation, retrieval, and interoperability using a variety of schemes; focus on cultural heritage digital repositories. Prereq: grad st; L&I Sci 511(531)(P)

716 (630) Indexing and Abstracting. 3 cr. G.
Fundamental principles, practices and procedures of indexing and abstracting. Focus on document analysis, vocabulary control, thesaurus construction, and design and evaluation of indexing systems. Prereq: grad st; L&I Sci 511(531)(P), 591(P).

733 (784) Advanced Topics in Information Retrieval: (Subtitled). 1-3 cr. G.
Advanced organizational, operational, and theoretical concepts of discipline-specific or system-specific electronic information retrieval. Specific topic and prerequisities announced in the schedule of classes. May be repeated with change in topic to max of 6 cr. Prereq: grad st.

734 (751) Library Services and Resources for Adults. 3 cr. G.
Introduction to the wide range of services and materials with which the library meets the needs of adult patrons. Prereq: grad st; L&I Sci 520(C), 571(P); or cons instr

735 (770) The Academic Library. 3 cr. G.
Administration of the college and university library, including a study of budgets, personnel, building and collections requirements, and cooperative programs. Prereq: grad st; L&I Sci 501(C); 511(531)(P); 520(C) or 531(C); 540(R); & 571(C); or cons instr

736 (771) The Public Library. 3 cr. G.
Overview of issues and functions of american public libraries; including trends in governance, program planning and evaluation, community analysis, alternative funding, library use and users. Prereq: grad st; L&I Sci 501(C); 511(531)(P); 520(C);540(P); 571(C); or cons instr

737 (772) The Special Library and Information Center. 3 cr. G.
The role of the information center in specialized environments, including functions, service responsibilities, programs, trends, and problems and issues unique to a special library environment. Prereq: grad st; L&I Sci 501(C); 511(531)(P); 520(P); 540(P); 571(P); or cons instr

738 (470) Legal Information Sources and Services. 3 cr. G.
A study of legal sources of federal and Wisconsin law including the use of law finders, statutes, cases and digests. Prereq: grad st; L&I Sci 571(P)

739 (effective 01/26/2009) Digital Information Services. 3 cr. G.
Examination of major issues involved in digital information services. Comparison of differences and similarities between digital and face-to-face services, evaluation of DIS and current trends. Prereq: grad st; L&I Sci 682(P); L&I Sci 510(P); & L&I Sci 571(P).

745 (757) Library Services for Children and Young Adults. 3 cr. G.
A foundation for developing, planning, and programming library services to meet the needs and interests of children and young adults; attention to content and evaluation of literature for these groups. Prereq: grad st; L&I Sci 645(P) or 646(C); or cons instr

746 (776) Administration of School Library Media Systems. 3 cr. G.
Organizational and managerial aspects of administering school library media systems. Includes study of organizational structures, personnel, budgetary problems, programs and services, and research in the field. Prereq: grad st & L&I Sci 642(P); or cons instr

750 (779) Arrangement and Description in Archives. 3 cr. G.
Development of the intellectual framework and critical evaluation skills necessary for the arrangement and description of archival collections. Prereq: grad st; L&I Sci 650(681)(C) or cons instr.

752 (778) Archival Outreach: Programs and Services. 3 cr. G.
An introduction to archival outreach and reference services for sustaining an archival program committed to public service. Prereq: grad st; L&I Sci 650(681)(C) or cons instr.

753 Preserving Information Media. 3 cr. G.
Examines all aspects of archival preservation of multiple media formats. Includes discussions of preservation practice, policy and programming in an archives. Prereq: grad st; L&I Sci 650(P) or cons instr. L&I Sci 691 with similar topic counts as repeat of 753.

759 (790) Fieldwork in Archives and Manuscripts. 1-3 cr. G.
Field experience of 50 to 150 hours in an archives or manuscript repository under faculty and field supervisor guidance. Student must also complete a supervised field project. May be repeated for total of 3 cr. Prereq: grad st; L&I Sci 571(P), 540(P); 650(681)(P) or History 775(P); or cons instr.

763 Topics in Information Policy. 1-3 cr. G.

An array of coursework specifically related to the social, ethical, economic, legal, and philosophical aspects of information. May be repeated w/chg in topic to 9 cr max. Prereq: grad st

774 Online Information Retrieval. 3 cr. G.
Study of the organizational, operational and developmental aspects of on-line database services, including an overview of the on-line community. Students must spend one hour per week in an 0n-line laboratory session. Prereq: grad st; L&I Sci 501(P); 571(P); 530 or 511(531)(P); cons instr

780 XML for Libraries. 3 cr. G.
Overview of general markup languages; concepts and components of extensible markup language, and the future of publishing and libraries. Prereq: grad st

783 (671) (effective 01/26/2009) Information Storage and Retrieval. 3 cr. G.
Fundamental analysis and design principles and theories used in systems for the storage, processing, and retrieval of information. Prereq: grad st; L&I Sci 571(P) or cons instr.

785 (742) Database Managment Systems for Information Professionals. 3 cr. G.
Study of microcomputer data base management software (DBMS) and information retrieval (IR) systems and their potential applications for information services. Prereq: grad st

786 Multimedia. 3 cr. G.
Multimedia and its applications in information systems and instructional environments. Students develop essential skills in the evaluation, creation, editing, and rendering of multimedia. Counts as repeat of L&I Sci 891 w/ same topic. Prereq: grad st; cons instr

787 (781) Library Automation. 3 cr. G.
The current status of automation and network activities among libraries, including an exploration of problems and prospects. Prereq: grad st; L&I Sci 511(531)(C) or cons instr

788 (782) Information Systems: Analysis and Design. 3 cr. G.
Analysis, design, and evaluation of information systems. The information system mission, goals and objectives are used to develop measures for judging system effectiveness and efficiency. Prereq: grad st; L&I Sci 501(P) or cons instr

789 (710) Electronic Networking and Information Services: 3 cr. G.
Outlines basic concepts of communication technology, electronic networking, and available information resources and services for information professionals. Prereq: grad st; L&I Sci 510(P), 571(P) or cons instr.

791 Topics in Information Organization: (Subtitled). 1-3 cr. G.
Book and periodical indexing, thesaurus construction, abstracting. Specific topic announced in Timetable. May be repeated w/ chg in topic to 6 cr max. Prereq: grad st; L&I SCI 511(531)(P); cons instr

821 (876) Seminar in Library Administration. 3 cr. G.
Selected problems of administration in all types of libraries. Topics may include areas such as library financial planning, staffing or facilities management. Prereq: grad st; L&I Sci 520(C), 540(P), 571(C), or cons instr.

823 (840) Seminar in International and Multicultural Information Services. 3 cr. G.
Implications of global and multicultural trends for information services. Creation, diffusion and use of information in cross-cultural settings. Prereq: grad st; L&I Sci 501(P), 540(P), or cons instr.

831 (811) Information Sources and Services in the Social Sciences and Humanities: 3 cr. G.
A study of the reference literature of the social sciences and humanities; the structure of the literature and organizations in each field. Prereq: grad st; L&I Sci 571 (P).

832 (814) Government Information Sources and Services. 3 cr. G.
Availability, selection, and use of federal, state, and local documents; international organization documents; or documents of selected foreign governments. Prereq: grad st & L&I Sci 571(P).

833 (816) Competitive Intelligence and Business Information: 3 cr. G.
Information services and basic sources in business and competitive intelligence. Prereq: grad st; L&I Sci 571(P).

834 (813) Information Sources and Services in Science and Technology. 3 cr. G.
A study of the reference literature of science and technology; the structure of the literature; and services of the various information sources in those fields. Prereq: grad st; L&I Sci 571(P).

835 (817) Information Sources and Services in the Health Sciences. 3 cr. G.
A survey of the basic sources used to locate information in the fields of medicine, nursing, allied health and health care administration, along with an introduction to the traditional & innovative services offered by health science libraries. Prereq: grad st; L&I Sci 571(P)

845 (801) Doctoral Seminar: Issues in Educational and Media Technology. 3 cr. G.
Interdisciplinary overview of research and theories in educational and media technology. Emphasizes cognitive bases of knowledge transfer and implications for instructional systems design and technology. Prereq: grad st; cons instr; Educ 701(P)

850 (758) Seminar in Modern Archives Administration. 3 cr. G.
In-depth exploration of several aspects of archival work through extensive readings, discussions, practical exercises and a major seminar paper. Counts as repeat of Hist 777. Prereq: grad st; L&I Sci 650(681)(P) or cons instr.

861 (820) Seminar in Intellectual Freedom. 3 cr. G.
Principles and practices of intellectual freedom, as related to the information professions. Emphasizes, but is not limited to, current issues in the u.s. Prereq: grad st; L&I Sci 520(P) or cons instr.

862 (825) Legal Issues for Library and Information Managers. 3 cr. G.
Legal issues arising in various library settings, including access rights, privacy and confidentiality, copyright, intellectual freedom and information liability and malpractice. Prereq: grad st; L&I Sci 501(P) or cons instr

888 Candidate for Degree: 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee assessed for 1 cr. Prereq: grad st.

890 Advanced Research Methods in Information Studies. 3 cr. G.
Introduction to the methodologies of research and their uses in library and information science. Practice in analyzing and appraising examples of research in library and information science. Prereq: grad st; L&I Sci 501(P), 511(531)(P), 571(P), 591(P), or cons instr.

891 Advanced Topics in Library and Information Science: (Subtitled). 1-3 cr. G.
Seminar in advanced current topics in library and information science. Specific topics and any additional prerequisites announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st; cons instr.

898 Master's Thesis. 1-3 cr. G.
Research and writing in consultation with SOIS thesis advisor for M.L.I.S. candidates pursuing the Thesis Option. May be repeated until completion and defense of the thesis. Prereq: grad st; L&I Sci 890(P) or equiv; cons of thesis advisor.

901 Doctoral Seminar in Information Studies. 3 cr. G.
Covers the nature of scholarship in information studies, socializes doctoral students to research culture, and addresses current research topics and methodologies in the field. Prereq: grad st; L&I Sci 501(P), 511(P), 571(P), 591(P), or cons instr

910 Doctoral Seminar in the Organization of Information. 3 cr. G.
In-depth and critical study of the historical, philosophical, theoretical, and methodological foundation of the organization of information. Prereq: grad st; L&I Sci 901(P), at least six grad credits in the organization of information, or cons instr.

960 Doctoral Seminar in Information Policy. 3 cr. G.

Examination of the conceptual, institutional, and practical foundations of information policy, law, and ethics. Prereq: grad st; L&I Sci 660(P), 661(P), 862(P), 901(P), or cons instr.

970 Doctoral Seminar in Information Retrieval. 3 cr. G.

Advanced research concepts, methods, and applications for information retrieval (IR) and its evaluation, and current topics of research interest to the IR community. Prereq: grad st; L&I Sci 671(P), 901(P), or cons instr

990 Fieldwork in Library and Information Science Services. 1-3 cr. G.

Fieldwork experience of 50 to 150 hours under faculty and field supervisor guidance. Student must also complete a supervised field project. May be repeated to max of 6 cr with cons adviser. Prereq: grad st; L&I Sci 501(P), 511(531)(P), 520(P), 540(P), 571(P), or cons instr.

998 (effective 01/26/2009) Doctoral Dissertation. 1-3 cr. G.

Doctoral dissertation research and advisement for information studies PhD candidates and PhD candidates with an emphasis in library and information science. Prereq: doctoral candidacy & cons doctoral advisor.

998 Doctoral Dissertation. 1-3 cr. G.

Doctoral dissertation research and advisement for multidisciplinary phd candidates with an emphasis in library and information science. May be repeated for max of 12 cr. Prereq: doctoral candidacy & cons doctoral advisor.

999 Independent Research. 1-3 cr. G.

Primary research under faculty guidance, on a special aspect of library and information services. Regular faculty consultation and written research report(s) required. Carries 3 cr limit for MLIS; may be repeated to 6 cr max for advanced certificate students. Prereq: grad st; L&I Sci 501(P), 511(531)(P), 571(P), 591(P), or cons instr.

MATHEMATICS

- Phone: (414) 229-5110
- Fax: (414) 229-4907
- E-mail: mathinfo@math.uwm.edu

School/College: College of Letters and Science

Degrees Conferred:
- MS in Mathematics
- PhD in Mathematics

Overview

The Department of Mathematical Sciences offers graduate programs of study in mathematics with a choice of specializations in the fields of algebra, analysis, topology, applied mathematics including numerical analysis, probability and statistics, atmospheric science, or industrial mathematics.

The programs of study at the master's level are designed to suit both the student intending to continue toward a PhD as well as the student who wishes to begin a professional career upon completion of the master's program.

The student may prepare for a career in teaching at the secondary or college level and for a career in research in the academic, industrial, government, or business communities.

Graduate Faculty

Distinguished Professor
- Tsonis, Anastasios, Ph.D., McGill University

Professors
- Ancel, Fredric D., Ph.D., University of Wisconsin-Madison
- Beder, Jay, Ph.D., George Washington University
- Fan, Dashan, Ph.D., Washington University
- Ghorai, Jugal, Ph.D., Purdue University
- Guilbault, Craig R., Ph.D., University of Tennessee-Knoxville
- Kahl, Jonathan, Ph.D., University of Michigan
- Key, Eric, Ph.D., Cornell University
- Milani, Albert J., Ph.D., University of Torino, Italy
- Musson, Ian M., Ph.D., University of Warwick, England
- Roebber, Paul, Ph.D., McGill University
- Stockbridge, Richard, Ph.D., University of Wisconsin-Madison
- Teply, Mark L., Ph.D., University of Nebraska
- Volkmer, Hans, Ph.D., University of Konstanz
- Wade, Bruce A., Ph.D., University of Wisconsin-Madison

Associate Professors
- Arnold, James E., Ph.D., University of Wisconsin-Madison
- Bell, Allen D., Ph.D., University of Washington, Chair
- Brazauskas, Vytaras, Ph.D., University of Texas-Dallas
- Brucks, Karen, Ph.D., North Texas State University
- Gervini, Daniel, Ph.D., University of Buenos Aires
- Larson, Vincent, Ph.D., Massachusetts Institute of Technology
- Lin, Tzu-Chu, Ph.D., University of Iowa
- McLeod, Kevin, Ph.D., University of Minnesota
- O'Bryan, Thomas E., Ph.D., Michigan State University
- Okun, Boris, Ph.D., SUNY at Binghamton
- Pinter, Gabriella, Ph.D., Texas Tech University
- Solomon, Donald W., Ph.D., Wayne State University
- Swanson, Kyle, Ph.D., University of Chicago
- Willenbring, Jeb, Ph.D., University of California-San Diego
- Xie, Dexuan, Ph.D., University of Houston
- Zou, Yi Ming, Ph.D., Indiana University

Assistant Professors
- Hruska, G. Christopher, Ph.D., Cornell University
- Hruska, J. Suzanne, Ph.D., Cornell University
- Kravtsov, Sergey, Ph.D., Florida State University
- Lauko, Istvan, Ph.D., Texas Tech University
- Sun, Jijing, Ph.D., Wayne State University
- Zheng, Ziyu, D.M.A., Universite de Provence Aix-Marselle I
- Zhu, Chao, Ph.D., Wayne State Unviersity

Master of Science in Mathematics

Four options for the master's degree are offered: the standard mathematics/statistics option (A), the industrial mathematics option (B), the atmospheric sciences option (C), and the applied statistics option (D). Students who plan to continue for a Ph.D. degree with a focus on mathematics/statistics should elect the standard mathematics/statistics option; those who seek the Ph.D. with a focus on atmospheric sciences should elect the atmospheric sciences option.

A. Standard Mathematics/Statistics Option

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

1. Completion of three semesters of undergraduate calculus.
2. At least 18 credits of acceptable undergraduate preparation beyond calculus.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The entering graduate student is assigned a temporary advisor by the Department Graduate Program Coordinator.

Credits and Courses

Minimum degree requirement is 24 to 36 credits, depending upon which option the student chooses: either 24 credits from mathematics courses, at least 18 credits of which are numbered 700 or above; or 30 credits from mathematics courses, at least 12 credits of which are numbered 700 or above; or at least 36 credits in mathematics courses open for graduate credit.

Under the 30-credit option, up to 9 credits may be in approved courses from outside the Department. Under the 36 credit option, up to 12 credits may be taken in approved courses from outside the Department.

Thesis

A thesis is optional. A student choosing the thesis option must enroll in Math 790. A maximum of 3 credits of thesis may be counted toward the degree requirements. An acceptable thesis will represent an original contribution and may involve applications, a novel exposition, or computational aspects of a mathematical problem or theory. The student must pass an oral defense of the thesis.

Examination or Project

Each student who does not elect the thesis option must satisfy one of the following requirements:

1. Pass a written comprehensive examination.
2. Present a satisfactory oral and written report on a comprehensive project done under the supervision of a faculty advisor.

The project option is open only to students who complete the 36 credit graduation requirement. Students electing the project should register for 1 to 3 credits of the MS seminar 791. Students

planning to continue for a PhD should select the written comprehensive examination option.

Time Limit

Under the 24 or 30 credit option, the student must complete all degree requirements within five years of initial enrollment. Under the 36 credit option, the student must complete all degree requirements within seven years of initial enrollment.

B. Industrial Mathematics Option

Objective

The objective of the master's program in industrial mathematics is to enable students to acquire the fundamentals of applied mathematics in areas of classical and numerical analysis, differential equations and dynamical systems, and probability and statistics. At the same time, the connection of these fields to modeling of physical, biological, and engineering phenomena will be stressed by requiring credits outside of the Department of Mathematical Sciences. Students are to obtain practical experience in mathematical modeling and analysis during an internship or industrial project that will culminate in a thesis.

Admission

An applicant must meet the Graduate School requirements as well as the following departmental requirements to be considered for admission to the program:

1. A bachelor's degree in an area of mathematical science (applied or pure mathematics, actuarial science, statistics, etc.), computer science, economics or finance, physics, engineering, or a related field.
2. Completion of at least three semesters of undergraduate calculus plus at least 6 credits of acceptable mathematics courses requiring calculus.
3. Knowledge of a high-level programming language.

Students satisfying only the minimum mathematics requirements will be expected to take courses that do not count toward the degree.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies. The entering graduate student is assigned an advisor by the chair of the Industrial Mathematics Committee. Depending on the thesis topic, the student may later change advisors.

General Requirements

A student must have completed, either prior to entering the program or by the time of graduation, courses in advanced calculus, numerical analysis, and ordinary differential equations. In addition, students must complete courses involving Fourier series, linear algebra, linear programming, mathematical modeling, partial differential equations, probability, and calculus-based statistics.

Credits and Course Work

At least 36 graduate credits in G or U/G courses at UWM are required, subject to the following regulations. A student must have:

1. At least 18 credits from the list of approved industrial mathematics courses, including Math 701, 715, and at least 6 additional credits at or above the 600 level.
2. At least 6 upper level (300 or above) credits of a coherent set of courses, approved by the advisor, in an application area (e.g., physics, engineering, business) outside of the Department. Students already proficient in an application area are expected to substitute mathematics courses.
3. Not more than 6 credits in any combination of independent study or seminar or thesis (Math 790, 791, 792, 799, or 990);
4. Not more than 12 credits below the 500 level from within the Department of Mathematical Sciences;
5. Demonstrated knowledge of an advanced scientific programming language approved by the Industrial Mathematics Committee; and
6. Advisor's prior written approval for every course.

Thesis

A thesis in which the student solves a mathematical problem with an industrial source is required. The student must work with the advisor/major professor from the start of the thesis through its completion, receiving his/her approval. The student must pass an oral defense before three faculty members.

Time Limit

Full-time students, without deficiencies, could be expected to complete the program in two years. All degree requirements must be completed within seven years of initial enrollment.

Special Recommendation

It is recommended that, by the time of graduation, students master the material presented in the following courses, either prior to enrolling or through course work: 313, 314, 564, 571, 601, 602, 701, 702, and 715. Students must work closely with their advisors to ensure satisfaction of the General, Course Work, and Thesis requirements for timely graduation.

Approved Industrial Mathematics Courses

Applied Mathematics

- Math 307/308 Theoretical Mechanics
- Math 320 Introduction to Differential Equations
- Math 321 Vector Analysis
- Math 322 Introduction to Partial Differential Equations
- Math 371 Introduction to Stochastic Models in Finance
- Math 405 Mathematical Models and Applications
- Math 520 Non-Linear Differential Equations
- Math 521/522 Advanced Calculus
- Math 525 Introductory Theory of Differential Equations
- Math 535 Linear Algebra
- Math 581 Introduction to the Theory of Chaotic Dynamical Systems
- Math 601/602 Advanced Engineering Mathematics I/II
- Math 621/622 Introduction to Analysis
- Math 623 Complex Analysis
- Math 701/702 Industrial Mathematics I/II (title changes pending)
- Math 703 Boundary Value Problems
- Math 705 Mathematical Fluid Dynamics
- Math 709 Differential Geometry
- Math 716 Ordinary Differential Equations
- Math 719 Partial Differential Equations
- Math 726 Introduction to Functional Analysis
- Math 727 Calculus of Variations
- Math 728 Integral Equations
- Math 801 Topics in Applied Mathematics: (Subtitle)
- Math 816/817 Advanced Ordinary Differential Equations I/II
- Math 819/820 Advanced Partial Differential Equations I/II
- Math 827 Fourier Analysis

Numerical Analysis

- Math 313 Linear Programming and Optimization
- Math 314 Mathematical Programming and Optimization
- Math 413 Introduction to Numerical Analysis
- Math 414 Numerical Analysis
- Math 416 Computational Linear Algebra
- Math 715 Numerical Analysis
- Math 793 Scientific Computational Laboratory: (Subtitle)
- Math 813 Numerical Solution of Ordinary Differential Equations
- Math 814 Numerical Solution of Partial Differential Equations
- Math 815 Topics in Numerical Analysis: (Subtitle)

Probability and Statistics
- MthStat 361/362 Introduction to Mathematical Statistics I/II
- MthStat 461/462 Data Analysis and Graphing Using SAS-I/II
- Math 471 Introduction to the Theory of Probability
- MthStat 561 Analysis of Variance
- MthStat 562 Design of Experiments
- MthStat 563 Regression Analysis
- MthStat 564 Time Series Analysis
- MthStat 565 Nonparametric Statistics
- MthStat 567 Statistical Methods in Reliability
- MthStat 568 Multivariate Statistical Analysis
- MthStat 569 Advanced Biostatistics
- Math 571 Introduction to Probability Models
- MthStat 761/762 Mathematical Statistics I/II
- Math 768 Applied Stochastic Processes
- MthStat 861/862 Decision Theory I/II
- MthStat 863 Hypothesis Testing
- MthStat 869 Advanced Topics in Mathematical Statistics

Classes in Biostatistics at the Medical College of Wisconsin

C. Atmospheric Sciences Option

Admission

An applicant must meet Graduate School requirements to be considered for admission to the program. Entering graduate students should have a general background in both mathematics and physics; given the intrinsic multi-disciplinary nature of the atmospheric sciences, no specific undergraduate course work is required. However, applicants should have an adequate mathematical background that includes calculus, vector analysis, ordinary and partial differential equations, and linear algebra. Students lacking this background may be admitted provided that the deficiencies amount to no more than two courses. Deficiencies must be made up within three enrolled semesters of graduate study.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. This advisor will be assigned upon enrollment in the program by the chair of the Atmospheric Sciences Committee.

Credits and Courses

The minimum degree requirement is 30 graduate credits, 12 of which must be in the atmospheric sciences 700 number sequence, 6 of which will be approved graduate elective credits, and 6 of which will be from either the mathematics sequences 521/522 or 601/602, or from two of the following courses: Math 703, Math 705, Math 801, and AtmSci 750.

Thesis

A thesis is optional. Students who choose the thesis option must enroll in Atm Sci 990 for the final 6 credits of the required total. An acceptable thesis will represent an original contribution to knowledge in the atmospheric sciences. Upon completion of the thesis, students must pass an oral examination to defend the thesis.

Comprehensive Examination

In the non-thesis option, students must pass a written comprehensive examination that tests basic knowledge of the atmospheric sciences.

Time Limit

Full-time students, without deficiencies, can be expected to complete the program within two years. All degree requirements must be completed within five years of initial enrollment.

D. Applied Statistics Option

The MS Option in Applied Statistics is designed for students who will seek employment as statisticians in non-academic settings after obtaining a MS degree. Students desiring to obtain a Ph.D. with a concentration in statistics should follow Option A: Standard Mathematics/Statistics Option.

Admission

An applicant must meet Graduate School requirements plus the following departmental requirements to be considered for admission to the program: completion of three semesters of undergraduate calculus and at least 18 credits of acceptable undergraduate preparation beyond calculus; these credits should include a one year sequence in mathematical statistics.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The entering graduate student is assigned a temporary advisor by the Department Graduate Program Coordinator.

Credit and Courses

The minimum requirement is 32 credits in Mathematics or Mathematical Statistics. All students must complete Math 535, 571, 621, and 622 and MthStat 462, 761, and 762. In addition, each student must complete 12 approved credits of applied statistics from UWM or the Medical College of Wisconsin.

Thesis Option

Students with grade point averages of 3.7 and no grades below B+ after their first 18 credits completed in the program will be eligible to write a thesis and earn 3 credits toward the degree. In addition, students who write a thesis are exempt from the Master's Proficiency exam.

Master's Proficiency Exam

Students who are not eligible for or who do not complete the thesis option are required to pass a written comprehensive examination.

Time Limit

Students must complete all degree requirements with 5 years of initial enrollment.

Doctor of Philosophy in Mathematics

Admission

Applicant must meet Graduate School requirements plus departmental requirements as given for admission to the master's program. A master's degree is not a prerequisite for admission to this PhD program.

Reapplication

A student who receives the master's degree must formally reapply for admission to the Graduate School before continuing studies toward the PhD.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The entering graduate student is assigned a temporary advisor by the Department Graduate Program Coordinator.

Course of Study

Minimum degree requirement is 54 graduate credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM. The student, in consultation with the major professor, must select both a primary and a secondary area of specialization. The primary area may be chosen from one of the following seven fields with minimum credit requirements as shown. The secondary area may be chosen from another of these fields or may be chosen from another appropriate department. Minimum course requirements for all work in both areas of specialization require approximately two full years of study.

Algebra field
- 12 credits in algebra
- 3 in complex analysis
- 3 in real analysis
- 3 in topology

3 in applied mathematics
3 outside the field

Analysis field
3 credits in algebra
6 in complex analysis
6 in real analysis
3 in topology
3 in applied mathematics
3 outside the field

Applied mathematics field
3 credits in algebra
6 in complex analysis
3 in real analysis
12 in applied mathematics
3 outside the field

Probability and statistics
3 credits in complex analysis
6 in real analysis
12 in probability and statistics
3 in applied mathematics

Topology field
3 credits in algebra
3 in complex analysis
3 in real analysis
12 in topology
3 in applied mathematics
3 outside the field

Industrial mathematics field
3 credits in algebra or topology
3 in complex analysis
3 in real analysis
9 in applied mathematics
6 in probability and statistics
6 in approved credits outside the 600 and 601 curricular codes

Atmospheric sciences field
12 credits in atmospheric sciences (synoptic, dynamic, cloud/radiative, air pollution)
9 in applied mathematics or probability and statistics
3 in analysis

Foreign Language

Except for students in the atmospheric sciences field, each student must pass a written examination in one foreign language; the examination is administered by the Department's Language Committee. Acceptable languages are French, German, and Russian; exceptions may be permitted upon written request of advisor.

Computer Proficiency

The student shall pass an examination on a higher programming language and/or other appropriate advanced computer skills; the examinations administered by the Department's Computer Committee. The Computer Committee may accept advanced computer science course work in lieu of the examination.

Residence

The student must meet minimum Graduate School residence requirements.

Doctoral Preliminary Examination

When the student is sufficiently prepared — normally when the student has earned 24 credits in specified areas above the 700 level — a doctoral preliminary examination to determine the student's knowledge and achievement is taken. For students in mathematics, the exam evaluates the student's general knowledge of mathematics, as well as the student's knowledge of the major area of concentration. Students in atmospheric sciences are examined in three areas: at least one from the 190 curricular area code and at least one from the 600/601 curricular area codes. Students must pass this examination to continue in the program. With permission of the examination committee, the student may repeat this examination once. If the student does not have a master's degree in mathematics before this examination, the committee will determine whether the student's performance is sufficient to qualify for the master's degree.

Doctoral Dissertation Proposal Hearing

After passing the language requirements and the doctoral preliminary examination, the student participates in a doctoral dissertation proposal hearing. At this hearing, the student is examined on the student's chosen area of research and a dissertation topic is approved.

Dissertation

The primary requirement for the PhD in mathematics is the candidate's completion, under the supervision of the Department advisor, of an original and significant mathematical investigation presented in the form of a dissertation. The investigation is to be in the field of algebra, analysis, applied mathematics, probability and statistics, topology, or atmospheric sciences. A dissertation for the industrial mathematics field must involve an industrial problem requiring a mathematical solution.

Dissertation Defense

The candidate must, as the final step toward the degree, present a colloquium based on the dissertation and must pass an oral examination in defense of the dissertation. If the candidate does not successfully defend a thesis within five years of admission to candidacy, the candidate may be required to take another doctoral preliminary examination and be readmitted to candidacy.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

Minor Area for Other PhD Majors

A doctoral student planning a physical science major other than mathematics may fulfill requirements for mathematics as the minor area of concentration by completing 12 credits of approved mathematics courses with a grade of B or better, at least 6 credits of which must be in courses 700 or above.

A doctoral student planning a non-physical science major may fulfill requirements for mathematics as the minor area of concentration by completing 12 credits with a grade of B or better in approved mathematics courses 300 or above.

For additional information on the PhD, see the Graduate School Doctoral Requirements page.

Courses - Mathematical Sciences

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

305 Vectors and Matrices. 3 cr. U/G.
Systems of linear equations and determinants, vector geometry and linear transformations in three dimensions, with emphasis on the development of computational tools. Not open for cr to students w/cr in Math 234(ER). Does not carry cr toward Math Sci major or grad cr in Math Sci. Prereq: jr st, math placement level B; or grad st.

311 Theory of Interest. 3 cr. U/G.
Simple and compound interest, annuities, amortization schedules, sinking funds, bonds, miscellaneous topics. Designed to prepare students for interest theory portion of second examination of Society of Actuaries. Does not carry grad cr in Math Dept. Prereq: jr st, Math 211(P) or 232(P); or grad st.

313 Linear Programming and Optimization. 3 cr. U/G.
Primal and dual formulations of linear programming problems; simplex and related methods of solution; algorithms for transportation; optimization. Prereq: jr st; Math/ElecEng 234(P); or grad st.

314 Mathematical Programming and Optimization. 3 cr. U/G.
Introduction to operations research. Network analysis; integer programming; game theory; nonlinear programming; dynamic programming. Prereq: jr st; Math 313(P) or cons instr; or grad st.

320 Introduction to Differential Equations. 3 cr. U/G.
Elementary types and systems of differential equations, series solutions, numerical methods, Laplace transforms, selected applications. No grad cr in Math Sci. Prereq: jr st, Math 233(P) & Math 234(P) or ElecEng 234(P); or grad st.

321 Vector Analysis. 3 cr. U/G.
Topics selected from vector algebra; scalar and vector fields; line, surface, and volume integrals; theorems of Green, Gauss, and Stokes; vector differential calculus. Prereq:

jr st, Math 233(P) & Math 234(P) or ElecEng 234(P); or grad st.

322 Introduction to Partial Differential Equations. 3 cr. U/G.
Partial differential equations of mathematical physics, boundary value problems in heat flow, vibrations, potentials, etc. Solved by Fourier series; Bessel functions and Legendre polynomials. Prereq: jr st; Math 320(P); or grad st.

337 Introduction to Number Theory. 3 cr. U/G.
Divisibility; primes; congruences; continued fractions; Pell's equation; Pythagorean triples; magic squares. Applies toward math major only in School of Education. Does not carry grad cr in math sciences. Prereq: jr st, Math 211(P) or math placement level A; or grad st.

371 Introduction to Stochastic Models in Finance. 3 cr. U/G.
Elementary modeling of financial instruments for students in mathematics, economics, business, etc. Statistical and stochastic tools leading to the Black-Scholes model. Real data parameter fitting. Prereq: jr st & one of the following pairs; Econ 413(431)(P) & 506(P), Bus Adm 210(P) & 350(P), Bus Adm 701(P) & 702(P), or Math 234(P) & MthStat 361(P), or cons instr; or grad st.

405 Mathematical Models and Applications. 3 cr. U/G.
Construction and mathematical models with applications to the social and life sciences. Models may involve Markov chains, linear programming, game theory, graph theory and growth processes. Prereq: jr st & either Math 234(P) or Math 205(P) & 211(P); or grad st.

413 Introduction to Numerical Analysis. 3 cr. U/G.
Finite difference calculus; summation calculus; roots of polynomials; polynomial approximations; numerical solution of differential and integral equations; numerical quadrature; selected topics in computer programming. Prereq: jr st, Math 233(C), & Math 234(C) or ElecEng 234(C); or grad st.

414 Numerical Analysis. 3 cr. U/G.
Systems of linear and nonlinear equations; eigenvalue and eigenvector problems; solution of ordinary and partial differential equations; initial and boundary value problems. Prereq: jr st & Math 413(P) or ElecEng 413(P); or grad st.

416 Computational Linear Algebra. 3 cr. U/G.
Linear transformations and matrices; direct solution of linear systems; errors, ill-conditioning, perturbed matrices; iterative refinements; least squares; Eigenvalues, Eigenvectors, inverse power and QR methods. Prereq: jr st & Math/ElecEng 234(P); or grad st.

431 Modern Algebra with Applications. 3 cr. U/G.
Groups, rings, fields, Boolean algebras with emphasis on their applications to computer science and other areas. Does not carry grad cr in math sci. Prereq: jr st & Math 232(P); or grad st.

451 Axiomatic Geometry. 3 cr. U/G.
An axiomatic approach to Euclidean and non-Euclidean geometry (historic role of the parallel postulate and models). Dept permission necessary for grad cr in math sci. Prereq: jr st, Math 341(241)(P), & Math 232(C); or grad st.

453 Transformations in Geometry. 3 cr. U/G.
Selected topics from vector geometry and geometric transformations such as the study of invariants and conics. Recom for secondary school teachers. Departmental permission necessary for grad cr in math sci. Prereq: jr st, Math 341(241)(P), & Math 232(C); or grad st.

471 Introduction to the Theory of Probability. 3 cr. U/G.
Probability in discrete & continuous sample spaces; combinatorial analysis; conditional probabilities; stochastic independence; Laplace limit theorem; Poisson distribution; laws of large numbers. Applications to physics, statistics. Prereq: jr st & Math 233(P); or grad st.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored programs before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

511 Symbolic Logic. 3 cr. U/G.
First-order predicate calculus; formal properties of theoretical systems; chief results of modern mathematical logic; advanced topics such as completeness and computability. CompSci 511, Math 511 & Philos 511 are jointly offered; they count as repeats of one another. Prereq: jr st & either Philos 212(P) or 6 cr in math at the 300-level or above.

520 Non-Linear Differential Equations. 3 cr. U/G.
Two dimensional autonomous systems, fixed point theory, Lyapunov functions, limit cycles, normal forms, bifurcation theory. Introduction to higher dimensional systems, invariant manifolds, Poincare maps. Prereq: jr st, Math 320(P) or cons instr; or grad st.

521 Advanced Calculus. 3 cr. U/G.
Fundamental notions of sets and functions; limits, continuity; Riemann integral, improper integral; infinite series; uniform convergence; power series; improper integrals with a parameter. Prereq: jr st, Math 232(P), & 341(241)(P); or grad st. Math 233(R) & 234(R).

522 Advanced Calculus. 3 cr. U/G.
Linear functions; differentiation of functions of several variables (implicit functions, Jacobians); change of variable in multiple integrals; integrals over curves, surfaces; Green, Gauss, Stokes theorems. Prereq: jr st, Math 233(P), 234(P) & 521(P); or grad st.

525 Introductory Theory of Differential Equations. 3 cr. U/G.
Basic course in the theory of ordinary differential equations. Existence and uniqueness theorems; series methods; Bessel and Legendre equations. Prereq: jr st & Math 521(P); or grad st.

529 Structure of Real and Complex Numbers. 3 cr. U/G.
Construction of the real and complex number systems; topology of the real line and the complex plane; sequences and series of complex numbers. Prereq: jr st & Math 341(241)(P); or grad st.

535 Linear Algebra. 3 cr. U/G.
Vector spaces; linear transformations and matrices; characteristic values and vectors; canonical forms; bilinear, quadratic, and Hermitian forms; selected applications. Prereq: jr st, Math 234(P) or 240(P), & Math 341(241)(P); or grad st.

537 Number Theory. 3 cr. U/G.
Number theoretic functions; distribution of primes; Diophantine approximation; partitions; additive number theory; quadratic reciprocity. Prereq: jr st, Math 232(P) & 341(241)(P); or grad st.

551 Elementary Topology. 3 cr. U/G.
General theory of point sets in Euclidean spaces, with emphasis on topology of two-dimensional and three-dimensional spaces; elementary notions of metric spaces; applications. Prereq: jr st & either Math 521(P) or 529(P); or grad st.

553 Differential Geometry. 3 cr. U/G.
The theory of curves and surfaces by differential methods. Prereq: jr st, Math 233(P), 234(P) & 341(241)(P); or grad st.

555 Projective Geometry. 3 cr. U/G.
Axiomatic and analytic methods; relation to affine geometry; coordinatization; conics; real projective plane; projective spaces. Prereq: jr st, Math 232(P) & 341(241)(P); or grad st.

571 (472) Introduction to Probability Models. 3 cr. U/G.
Probability review, Markov chains in discrete and continuous time. Random walks, branching processes, birth and death processes. Queuing theory. Applications to physical sciences, engineering, mathematics. Prereq: jr st, Math 233(P), Math 234(P) or ElecEng 234(P), & one college-level course in statistics or probability; or grad st.

581 Introduction to the Theory of Chaotic Dynamical Systems. 3 cr. U/G.
Iterated mappings, one parameter families, attracting and repelling periodic orbits, topological transitivity, Sarkovski's theorem, chaos, bifurcation theory, period doubling route to chaos, horseshoe maps,

attractors. Prereq: jr st & Math 521(P), 529(P) or 621(P), or cons instr; or grad st.

601 Advanced Engineering Mathematics I. 3 cr. U/G.
Sequences and series, elementary complex analysis; Fourier series; linear and nonlinear ordinary differential equations; matrix theory, elementary functional analysis; elementary solution of partial differential equations. Prereq: jr st; Math 234(P) or ElecEng 234(P); 3 cr Math at 300-level or above; or cons instr.

602 Advanced Engineering Mathematics II. 3 cr. U/G.
Continuation of Math 601. Partial differential equations, Fourier and Laplace transforms, convolutions, special functions, mathematical modeling. Prereq: jr st; Math 601(P).

621 Introduction to Analysis. 3 cr. U/G.
Topology of Euclidean space; continuity; differentiation of real and vector-valued functions; Riemann-Stieltjes integration. Prereq: jr st, Math 233(P) 234(P), & 341(241)(P); or grad st.

622 Introduction to Analysis. 3 cr. U/G.
Continues Math 621. Sequences and series of functions; uniform convergence; power series; functions of several variables; inverse and implicit function theorems; differential forms; Stokes' theorem. Prereq: jr st & Math 621(P); or grad st.

623 Complex Analysis. 3 cr. U/G.
Complex numbers; definition and properties of analytic functions of a complex variable; conformal mapping; calculus of residues; applications to mathematics and physics. See also Math 713. Prereq: jr st & either Math 321(P) OR 521(P); or grad st.

631 Modern Algebra. 3 cr. U/G.
Group theory, including normal subgroups, quotients, permutation groups, Sylow's theorems, Abelian groups; field theory; linear algebra over general fields. Prereq: jr st, Math 531(P) or cons instr; or grad st.

632 Modern Algebra. 3 cr. U/G.
Continuation of Math 631. Ring theory, including ideals, quotient rings, Euclidean rings, polynomial rings, unique factorization; modules, including vector spaces, linear transformations, canonical forms; bilinear forms. Prereq: jr st & Math 631(P) or cons instr; or grad st.

675 Topics in Modern Mathematics: (Subtitled). 3 cr. U/G.
Instructor and student presentations of modern topics. Specific topics and any additional prerequisites announced in Schedule of Classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: jr st, Math 233(P) & cons instr; or grad st.

701 Industrial Mathematics I. 3 cr. G.
Elementary functional analysis, wavelets, control theory. Use of mathematical software emphasized throughout. Prereq: grad st in nat sci discipline; Math 522(P) or 602(P) or 622(P).

702 Industrial Mathematics II. 3 cr. G.
Optimal control theory, digital signal processing, image processing, linear programming, nonlinear optimation, artificial neural networks. Use of mathematical software emphasized throughout. Prereq: grad st in nat sci discipline; Math 701(P).

703 Boundary Value Problems. 3 cr. G.
Analytic methods for PDE's in mathematical physics, emphasis on green's functions. Theory of distributions, fundamental solutions, generalized eigenfunction expansions, generalized fourier and laplace transforms. Prereq: grad st; Math 322(P) & 623(P).

705 Mathematical Fluid Dynamics. 3 cr. G.
Cartesian tensor analysis; kinematics and dynamics of a fluid continuum; irrotational motion of a perfect fluid; selected advanced topics. Prereq: grad st; Math 308(P); 623(P) or 713(P).

709 Differential Geometry. 3 cr. G.
The theory of curves, surfaces, and manifolds in modern terminology. Global results on closed surfaces, geodesics, differential forms and tensor calculus.introduction to riemanniam geometry. Prereq: grad st; Math 522(P) or 622(P).

711 Theory of Functions of a Real Variable. 3 cr. G.
Equivalence relations; cardinal and ordinal numbers; topology of real line; cantor and borel sets; lebesgue measure on real line; baire and measurable functions; lebesgue integral. Prereq: grad st; Math 522(P) & 551(P); or Math 622(P).

712 Theory of Functions of a Real Variable. 3 cr. G.
Lebesgue integration; modes of convergence; lp spaces; vitali covering and lebesgue density theorems; dini derivates; differentiation; fundamental theorem of the lebesgue integral calculus; fubini's theorem. Prereq: grad st; Math 711(P).

713 Theory of Functions of a Complex Variable. 3 cr. G.
Complex numbers; linear transformations; elementary functions; conformal mapping; complex integration; infinite sequences; dirichlet problem; multivalued functions. Prereq: grad st; Math 522(P) or 621(P).

714 Theory of Functions of a Complex Variable. 3 cr. G.
Continuation of Math 713. Prereq: grad st; Math 713(P).

715 Numerical Analysis. 3 cr. G.
Interpolation and approximation; differentiation and quadrature; numerical solution of ordinary differential equations; solution of linear and nonlinear algebraic equations. Prereq: grad st; Math 413(P); Math 521(P) or 621(P).

716 Ordinary Differential Equations. 3 cr. G.
Existence and uniqueness theorems for systems of ode; qualitative properties of solutions, including stability and asymptotic behavior; general theory of linear systems; sturm-liouville problems. Prereq: grad st; Math 522(P) or 622(P).

719 Partial Differential Equations. 3 cr. G.
First and second order equations; characteristics, cauchy problem; classical solutions of linear elliptic, parabolic and hyperbolic equations. Prereq: grad st; Math 522(P) or 622(P); math 320(P).

721 Abstract Measure and Integration. 3 cr. G.
General theory of measures and integration; differentiation of set functions; relation to stochastic variables; atomic measures; haar measure and integral applications to probability theory. Prereq: grad st; Math 712(P).

726 Introduction to Functional Analysis. 3 cr. G.
Basic notions of functional analysis in hilbert space will be introduced. The concepts will be illustrated by applications to elementary differential and integral equation problems. Prereq: grad st; Math 522(P) or 622(P).

731 Abstract Algebra. 3 cr. G.
Basic course which is prerequisite for all other 700-799 level courses in algebra; groups, rings, fields, galois theory, modules, and categories. Prereq: grad st; Math 632(P); cons instr.

732 Abstract Algebra. 3 cr. G.
Continuation of Math 731. Prereq: grad st; Math 731(P).

735 Theory of Groups. 3 cr. G.
Topics selected from permutation groups; representations of groups and algebras; group algebras; group characters; extension problems; simple groups; solvable and nilpotent groups. Prereq: grad st; Math 732(P).

736 Theory of Rings and Modules. 3 cr. G.
Noetherian and artinian rings and modules; primitive, prime and simple rings and ideals; radicals; localization; morita theory; construction and study of special classes of rings. Prereq: grad st; Math 732(P).

737 Theory of Rings and Modules. 3 cr. G.
Continuation of Math 736. Prereq: grad st; Math 736(P) or cons instr.

751 Introductory Topology. 3 cr. G.
Fundamental properties and examples of topological spaces and continuous functions, including compactness, connectedness, metrizability, completeness, product and quotient spaces, homeomorphisms, embedding, extension, and euclidean spaces. Prereq: grad st; Math 522(P) or 621(P).

752 Introductory Topology. 3 cr. G.
Continuation of Math 751. Prereq: grad st; Math 751(P).

753 Introduction to Algebraic Topology. 3 cr. G.

Homology theory; complexes and simplicial homology theory; general homology theories; cohomology rings; applications to manifolds, fixed point theorems, etc. Prereq: grad st; Math 632(P); Math 551(P) or 751(P) or cons instr.

754 Introduction to Algebraic Topology. 3 cr. G.

Continuation of Math 753. Prereq: grad st; Math 753(P).

767 Statistical Methods for Engineers and Scientists. 3 cr. G.

Elementary baysian decision theory; prior posterior and predictive distributions; posterior and pre-posterior analysis of two action decision problems; concept of likelihood functions for binomial, poisson, exponential and normal distributions; simple and multiple regression analysis; introduction to autoregressive models. Not open to students who have cr in ElecEng 767, which is identical to Math 767. Prereq: grad st; Math 362(P) or math 467(P).

768 Applied Stochastic Processes. 3 cr. G.

Concepts in queueing theory; exponential channels; applications of markov chains to queueing problems; queue disciplines with priorities. Not open to students who have cr in ElecEng 768, which is identical to Math 768. Prereq: grad st; Math 361(P) or math 467(P).

771 Theory of Probability. 3 cr. G.

Measure-theoretic foundations; limit-law theorems; weak and strong laws of large numbers; central limit problem; conditional expectations, martingales; stochastic processes. Prereq: grad st; Math 471(C) or 712(C).

781 Iterated Maps as Dynamical Systems. 3 cr. G.

Periodic, recurrent and non-wandering points, kneading theory, unstable manifolds, unimodal mappings, turbulent and chaotic maps, symbolic dynamics, structural stability, topological conjugacy, topological dynamics. Prereq: grad st; Math 711(P) or cons instr.

790 Master's Thesis. 1-3 cr. G.

- Cr count toward masters degree only if student completes thesis option. Prereq: grad st; cons instr.

791 Master's Seminar. 1-3 cr. G.

- May not be taken for cr more than once. Prereq: grad st; cons instr.

792 Industrial Internship. 1-3 cr. G.

Students earn credits for serving in an industrial internship that involves work of an advanced mathematical nature. They must prepare a report based on the internship. Retakable w/chg in topic to 6 cr max. Prereq: grad st; cons instr.

793 Scientific Computational Laboratory: (Subtitled). 1-2 cr. G.

- Retakable w/chg in topic to 6 cr max. Prereq: grad st; Math 715(C).

799 Seminar in Mathematics: (Subtitled). 1-3 cr. G.

Specific topics and any additional prerequisites announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons instr.

801 Topics in Applied Mathematics: (Subtitled). 3 cr. G.

Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

805 Special Functions. 3 cr. G.

Special functions arising in mathematics, physics, and engineering; their series and integral representations; differential and other functional equations; generating functions; orthogonality and other properties. Prereq: grad st; Math 713(P).

807 Group Theory and Its Applications to Physics. 3 cr. G.

Representations of discrete and continuous groups, including rotation groups, unitary groups and crystal point and space groups. Symmetries of elementary particles. Molecular obitals, energy bands. Counts as a repeat of Physics 807. Prereq: grad st; Physics 532(P).

809 Topics in Differential Geometry: (Subtitled). 1-3 cr. G.

Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Topics may be selected from Riemannian geometry, minimal surfaces and surfaces of prescribed mean curvature, geometric partial differential equations, or related areas of geometry. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

813 Numerical Solution of Ordinary Differential Equations. 3 cr. G.

Methods for initial value and boundary value problems; stiff equations, singular points and bifurcation. Prereq: grad st; Math 715(P).

814 Numercal Solution of Partial Differential Equations. 3 cr. G.

Finite difference and finite element methods for linear elliptic, parabolic and hyperbolic equations; nonlinear equations. Prereq: grad st; Math 715(P).

815 Topics in Numerical Analysis: (Subtitled). 3 cr. G.

- Retakable w/chg in topic to 9 cr max. Prereq: grad st; Math 715(P).

816 Advanced Ordinary Differential Equations. 3 cr. G.

Existence and uniqueness theorems; singularity of solutions; oscillation and comparison theorems; poincare-bendixon theory. Prereq: grad st; Math 716(P).

817 Advanced Ordinary Differential Equations II. 3 cr. G.

Continuation of Math 816; dynamical systems, bifurcation theory, topological methods. Prereq: grad st; Math 816(P).

819 Advanced Partial Differential Equations. 3 cr. G.

Theory of linear PDE's including; elliptic, parabolic and hyperbolic equations; weak solvability, regularity theorems. Fundamental solutions, asymptotic properties. Prereq: grad st; Math 719(P).

820 Advanced Partial Differential Equations, II. 3 cr. G.

Continuation of Math 819; general theory of linear partial differential equations; stationary and evolution equations; pseudo-differential operators. Prereq: grad st; Math 819(P).

821 Advanced Topics in Real Analysis: (Subtitled). 3 cr. G.

Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; Math 712(P).

823 Advanced Topics in Complex Analysis: (Subtitled). 3 cr. G.

Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; Math 714(P).

825 Functional Analysis. 3 cr. G.

Basic theorems of b-spaces and f-spaces including the closed graph; Hahn-Banach and Banach-Steinhaus theorems; Banach algebras; generalized functions; spectral theory. Prereq: grad st; Math 712(P).

826 Functional Analysis. 3 cr. G.

Continuation of Math 825. Prereq: grad st; Math 825(P).

827 Fourier Analysis. 3 cr. G.

Fourier coefficients; convergence of Fourier series and conjugate Fourier series; summability; functions of certain special classes; absolute convergence of trigonometric series; divergence; complex methods. Prereq: grad st; Math 712(P) & 713(P).

841 Advanced Topics in Algebra: (Subtitled). 3 cr. G.

Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; Math 732(P); cons instr.

843 Homology. 3 cr. G.

Modules; diagrams; categories; functors; complexes; cohomology; extensions; resolutions; injective and projective systems; graded modules; homological dimension; spectral sequences; derived functors. Prereq: grad st; Math 731(P).

844 Homology. 3 cr. G.

Continuation of Math 843. Prereq: grad st; Math 843(P).

851 Advanced Topics in Topology: (Subtitled). 3 cr. G.

Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered.

Retakable w/chg in topic to 9 cr max. Prereq: grad st; Math 752(P); cons instr.

873 Advanced Topics in Probability: (Subtitled). 3 cr. G.
Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

881 Topics in Nonlinear Dynamics: (Subtitled). 3 cr. G.
Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; Math 711(P); cons instr.

990 Reading and Research. 1-6 cr. G.
To be arranged with your instructor and department chair. Retakable. Prereq: grad st.

Courses - Mathematical Statistics

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

361 Introduction to Mathematical Statistics I. 3 cr. U/G.
Probability spaces; discrete and continuous, univariate and multivariate distributions; moments; independence, random sampling, sampling distributions; normal and related distributions; point and interval estimation. Not recom for grad students in math, or students not planning to take MthStat 362. Prereq: jr st; Math 233(P).

362 Introduction to Mathematical Statistics II. 3 cr. U/G.
Testing statistical hypothesis; linear hypothesis; regression; analysis of variance and experimental designs; distribution-free methods; sequential methods. Not recom for grad students in math. Prereq: jr st; MthStat 361(P).

462 Data Analysis and Graphing Using SAS-II. 2 cr. U/G.
Continuation of MthStat 461. Procedures GLM, LIFEREG, LIFETEST, LOGISTIC, PROBIT and advanced GRAPHING. Offered second half of sem. U cr does not count toward math sci major. Prereq: jr st; MthStat 461(P) or cons instr.

465 Introductory Mathematical Statistics for Social Sciences and Education. 3 cr. U/G.
Probability distributions; parameter estimation and confidence intervals; hypothesis testing; applications. Not open for cr to students w/cr in MthStat 467, 362, or for grad cr in math. Not open for cr toward major in math except in School of Education. Prereq: jr st; Math 211(P) or 232(P).

467 Introductory Statistics for Physical Sciences and Engineering Students. 3 cr. U/G.
Concepts of probability and statistics; probability distributions of engineering applications; sampling distributions; hypothesis testing, parameter estimation; experimental design; regression analysis. Not open for cr for Math majors or students with cr in MthStat 362 or 465. Ind Eng 467 & MthStat 467 are jointly offered & count as repeats of one another. Prereq: jr st; Math 233(P).

561 Analysis of Variance. 3 cr. U/G.
Theory of the general linear hypothesis; least squares and estimation; confidence ellipsoids and tests under normal theory; analysis of covariance; random-effects model. Prereq: jr st; MthStat 362(P).

562 Design of Experiments. 3 cr. U/G.
Latin squares; incomplete block designs; factorial experiments; confounding; partial confounding; split-plot experiments; fractional replication. Prereq: jr st; MthStat 362(P); Math 234(P) or 240(P).

563 Regression Analysis. 3 cr. U/G.
Straight line, polynomial and multiple regression; multiple and partial correlation; testing hypotheses in regression; residual analysis. Prereq: jr st; MthStat 467(P) or 362(P).

564 Time Series Analysis. 3 cr. U/G.
Autocorrelation; spectral density; linear models; forecasting; model identification and estimation. Prereq: jr st; MthStat 362(P).

565 Nonparametric Statistics. 3 cr. U/G.
Sign, rank and permutation tests; tests of randomness and independence; methods for discrete data and zeroes and ties; power and efficiency of nonparametric tests. Prereq: jr st; MthStat 362(P).

568 Multivariate Statistical Analysis. 3 cr. U/G.
Multivariate normal distribution; Wishart distribution; Hotelling's T2; multivariate normal distribution; multivariate analysis of variance; classification problems. Prereq: jr st; MthStat 362(P); Math 535(P).

761 Mathematical Statistics. 3 cr. G.
Probability and distribution theory; point and interval estimation; testing hypotheses; large sample inference; nonparametric inference; sequential analysis. Prereq: grad st; Math 522(C) or 622(C).

762 Mathematical Statistics. 3 cr. G.
Continuation of MthStat 761. Prereq: grad st; MthStat 761(P).

861 Decision Theory. 3 cr. G.
Game theory; minimax theorem; admissibility and complete class theorems; invariant statistical decision problems; test hypotheses; multiple decision problems; sequential decision theory; empirical bayes decision procedures. Prereq: grad st; MthStat 762(P).

863 Hypothesis Testing. 3 cr. G.
Exponential families; uniformly most--powerful tests; least favorable priors; unbiased tests; invariant tests; applications to exponential families and the general linear hypothesis. Prereq: grad st; MthStat 762(P).

869 Advanced Topics in Mathematical Statistics: (Subtitled). 3 cr. G.
Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; MthStat 762(P).

Courses - Atmospheric Sciences

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

330 Air-Pollution Meteorology. 3 cr. U/G.
Pollutant sources and sinks, fundamental pollutant chemistry, monitoring techniques, averaging boundary layers and turbulence, diffusion theories, diffusion models, regional and global-scale pollution problems. Prereq: Atm Sci 240(P); Chem 102(P); stats course recom.

350 Atmospheric Thermodynamics. 3 cr. U/G.
Radiant energy, sensible heat, and atmospheric thermodynamics; the gas laws; hydrostatic and psychrometric equations; dry and moist convection; clouds and their physical and energy relations. Optional field exercise. Prereq: jr st; Physics 220(P); Math 232(P); Atm Sci 240(P).

351 Dynamic Meteorology I. 3 cr. U/G.
The role of dynamics in atmospheric physics; equations of motion; symmetric circulation models; gravity waves; Rossby waves, quasi-geostrophy; introduction to instability of atmospheric flows. Prereq: jr st; Atm Sci 240(P); Math 233(P).

352 Dynamic Meteorology II. 3 cr. U/G.
Circulation, vorticity, potential vorticity; shallow water equations: Poincare, Kelvin, and Rossby waves, energy and enstrophy; quasi-geostrophy for a stratified atmosphere; barotropic and baroclinic instability. Prereq: jr st; Atm Sci 351(P); Math 234(P).

360 Synoptic Meteorology I. 4 cr. U/G.
Fundamental principles; synoptic-scale structure and dynamics; equivalent barotropic model; vertical motions; introduction to and application of quasi-geostrophic theory. Prereq: jr st; Math 232(P); Physics 210(P); Atm Sci 240(P).

361 Synoptic Meteorology II. 4 cr. U/G.
Extension of quasi-geostrophic theory to Q-vectors; isentropic potential voracity applied to mid-latitude weather systems; fronts and jets. Prereq: jr st; Atm Sci 360(P).

405 Atmospheric Science for in-Service Teachers: 1-3 cr. U/G.
Basic, advanced or new topics in atmospheric sciences for in-service teachers. Retakable w/chg in topic to 9 cr max. Prereq: in-service teacher; add'l prereqs depending on topic.

414 Water Resources. 3 cr. U/G.

Elements of the water budget; problems in planning, operation, and evaluation of control and utilization of water in selected drainage basins and hydrologic regions. Prereq: jr st; intro course in chem or physics & an intro course in a field science (such as botany, ecology, geog, geo sci, meteorology).

415 Hydrology. 3 cr. U/G.
The role of water in geographic systems; hydrologic phenomena in interrelation with land form, climate, soil, vegetation, and cultural process in the geographic landscape. Prereq: jr st; Math 105; two courses in geog, meteorology or geo sci or bio sci.

420 Interface Meteorology. 3 cr. U/G.
Quantitative treatment of energetics and mass exchanges at the planetary/atmosphere interface. Prereq: jr st; Math 231(P), Physics 207(P) or 209(P), Atm Sci 100(P) or 240(P) or 350(P).

460 Mesoscale Circulations. 3 cr. U/G.
Theory, analysis and forecasting of mesoscale flows, including convective systems, polar lows, terrain and surface-forced flows, jet streams and hurricanes. Prereq: jr st; Atm Sci 360(R) or cons instr.

464 Cloud Physics. 3 cr. U/G.
Formation of cloud droplets, droplet growth by condensation, formation of ice crystals, precipitation processes, weather radars, cloud models. Prereq: jr st; Physics 210(P); Math 232(P); Atm Sci 350(P).

465 Meteorological Instrumentation. 3 cr. U/G.
An introduction to the measurement of basic meteorological parameters. General measurement fundamentals; physical fundamentals; measurement of temperature, pressure, wind speed, wind direction, humidity and radiation. 2 cr lec, 1 cr lab. Prereq: jr st; Atm Sci 240(C); Physics 220(C).

470 Tropical Meteorology. 3 cr. U/G.
Dynamics and energetics of tropical circulations. Origins and evolution of equatorial disturbances and easterly waves. Structure and dynamics of tropical cyclones. Hurricane modeling and prediction. Prereq: Atm Sci 351(P) or 360(P).

480 The General Circulation and Climate Dynamics. 3 cr. U/G.
Historical overview, the zonally symmetric circulation, momentum, heat and water budgets, stationary waves, the El Nino Southern oscillation, global warming, interpentadal variability in the North Atlantic. Prereq: jr st; Atm Sci 351(P).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

500 Statistical Methods in Atmospheric Sciences. 3 cr. U/G.
Mathematical and statistical tools applicable to the investigation of atmospheric problems; the nature and treatment of atmospheric data. Prereq: jr st; Atm Sci 240(P) or 350(P), & Math 231(P), 232(P) or cons instr.

505 Micrometeorology. 3 cr. U/G.
Surface energy budget; radiation balance and heat transfer; boundary-layer profiles of wind, temperature and moisture; turbulence and boundary-layer fluxes; evapotranspiration; special topics. Prereq: jr st; Atm Sci 351(P) & 330(P).

511 Seminar in Atmospheric Radiation and Remote Sensing. 3 cr. U/G.
Basic laws of radiation, absorption and scattering, weather radar, retrieval of soundings, remote sensing and climate, weather satellites. Prereq: jr st; Math 232(P); Atm Sci 350(P) & Physics 210(P).

520 Advanced Dynamic Meteorology. 3 cr. U/G.
Properties of atmospheric sound, gravity, Rossby waves. Baroclinic instability, cyclogenesis, frontogenesis, and the general circulation. Introduction to numerical prediction. Prereq: jr st; Math 234(P), Atm Sci 350(P) & 351(P) or equiv.

531 Numerical Weather Prediction. 3 cr. U/G.
The application of numerical methods to weather analysis and forecasting. Study of operational forecast models. Design of research models. Prereq: Atm Sci 360(P) & CompSci 251(P).

690 Seminar in Atmospheric Sciences: (Subtitled). 1-3 cr. U/G.
Intensive topical studies of currently active problem areas. Retakable w/chg in topic to 9 cr max. Satisfies L&S Seminar req. Prereq: jr st; cons instr.

705 Air Pollution Modeling. 3 cr. G.
Computational techniques for determining surface fluxes of heat and momentum. Numerical methods for solving advection and diffusion problems; statistical diffusion modeling. Prereq: grad st; cons instr.

711 Cloud Dynamics. 3 cr. G.
Atmospheric applications of turbulent flow theory. Nonprecipitating clouds: structure of individual cumulus clouds, stratocumulus and cumulus boundary layers. Precipitating clouds: thunderstorms, squall lines, hurricanes. Prereq: grad st; cons instr.

725 Remote Sensing of the Environment. 3 cr. G.
Remote sensing technology, data processing, and analysis in meteorology, with application to oceanography and geology. Radar and acoustic sounding. Erts, sms/goes, thermal scanner, conventional weather satellites. Prereq: grad st in Physics, Math, Geog, Geo Sci, Engr, or Atm Sci.

750 Nonlinear Time Series Analysis. 3 cr. G.
Phase space reconstruction; singular spectrum analysis; prediction; dimension estimation; application of nonlinear time series analysis techniques to selected data sets. Prereq: grad st; cons instr.

751 Geophysical Fluid Dynamics. 3 cr. G.
Waves and instabilities in the atmosphere and ocean; wave-mean flow interactions; geophysical turbulence; ageostrophic circulations. Prereq: grad st.

760 Advanced Cloud, Aerosol & Precipitation Principles, Processes & Interactions. 4 cr. G.
(3 hr lc, 2 hr la). Theoretical & experimental look at cloud & precipitation formation, interaction & dissipation microphysics & chemistry aerosol physics & chemistry, & their application. Prereq: grad st; Atm Sci 464(C) or cons instr.

761 Advanced Synoptic/Mesoscale Meteorology. 3 cr. G.
Advanced analysis techniques for snyoptic/mesoscale diagnoses, case studies of relevant circulation systems; role of planetary, synoptic, and mesoscale flows in system development. Prereq: grad st; cons instr.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

943 Seminar: Hydrology: 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

950 Seminar on Topics in Atmospheric Sciences. 1-3 cr. G.
Selected topics in atmospheric dynamics, satellite meteorology, atmospheric & oceanic convection, air & water pollution, numerical prediction remote sensing, & others. Prereq: grad st in physical sciences or engineering.

990 Master's Thesis. 1-8 cr. G.
- Prereq: grad st; cons instr & completed thesis proposal.

997 Doctoral Externship. 1-12 cr. G.
- Prereq: grad st; admis to candidacy for the PhD.

998 Doctoral Dissertation. 1-12 cr. G.
- Prereq: grad st; admis to candidacy for PhD.

999 Advanced Independent Reading. 1-4 cr. G.
Independent meteorological study. Retakable to 4 cr max. Prereq: grad st & cons instr.

MEDIA STUDIES

- Phone: (414) 229-5376
- Fax: (414) 229-2411
- E-mail: prbrewer@uwm.edu

School/College: College of Letters and Science

Degree Conferred:

- MA in Media Studies
  (Note: The M.A. in Media Studies was known as the M.A. in Mass Communication until Fall 2008.)

Overview

Mediated communication brings information, persuasion, and entertainment to our neighborhoods, our nation, and our world. As the choices expand and the reach of the media becomes more global, media producers can be anyone from a major corporation to an individual activist with a Web site, and media consumers can interact with the products they encounter in a multitude of ways.

The M.A. in Media Studies offered through the Department of Journalism and Mass Communication is wide ranging and interdisciplinary. The goal of the program is to foster knowledge and understanding of mass media and society through critical, cultural, historical, legal, ethical, or social scientific approaches. One particular emphasis of the program is the relationship between the media and the public interest.

The program is oriented toward academic study rather than instruction in technical skills. The curriculum focuses on research and critical thinking about the media. Students complete 24 credits of coursework and a 6-credit thesis. They work closely with their faculty advisors to design a course of study and to conduct original research for their theses.

Mass Communication graduate faculty members have national reputations for research in an array of specialties. Students in the master's program also are active in research.

The program's alumni apply what they have learned to a range of endeavors, including media-oriented careers and advanced academic work. An increasing number continue their education in Ph.D. programs.

Graduate Faculty

Professors

Backes, David, Ph.D., University of Wisconsin-Madison
Pritchard, David, Ph.D., University of Wisconsin-Madison
Smith, Jeffery, Ph.D., University of Wisconsin-Madison

Associate Professors

Allen, David, Ph.D., University of Minnesota
Brewer, Paul, Ph.D., University of North Carolina-Chapel Hill, Chair
Levine, Elana, Ph.D., University of Wisconsin-Madison
Supriya, K.E., Ph.D., University of Illinois

Assistant Professors

Ley, Barbara, Ph.D., University of California-Santa Cruz
Newman, Michael, Ph.D., University of Wisconsin-Madison
Zhang, Jing, Ph.D., University of Illinois - Champaign/Urbana

Master of Arts in Media Studies

Admission

An applicant must meet Graduate School requirements plus the following departmental requirements to be considered for admission to the program:

1. Present an overall undergraduate grade point average of 3.00 or above.
2. Submit three letters of recommendation from persons capable of judging the applicant's capacity for success in a graduate program of study.
3. Submit scores from the General Test section of the Graduate Record Examination.
4. Submit a sample of original writing in English — a piece of academic or professional work, or a brief essay about a topic of the applicant's choice.

International students, in addition to satisfying the Graduate School's requirements for English language proficiency, must submit TOEFL or IELTS scores sufficiently high to meet program standards.

Advisors

The department's graduate director initially advises students and helps them find a thesis advisor. Students consult with their advisors as they prepare their course plans and consider thesis topics. The thesis advisor guides the student in preparing a thesis proposal, provides advice on the thesis research, and chairs the thesis committee. In consultation with the graduate director, students may change thesis advisors.

Courses and Credits

Students must take 30 graduate credits, at least 24 of which must be in courses offered by the Department of Journalism and Mass Communication. Two courses are required of all students:

- JMC 700 Introduction to Graduate Study in Mass Communication
- JMC 701 Mass Communication Theory and Research Design

Students also must take at least two 800-level seminars offered by the Department of Journalism and Mass Communication, and a minimum of 6 credits of JMC 990, Research and Thesis.

Thesis

All students write a thesis based on original research. The thesis advisor chairs the thesis committee, which also includes two other members. The committee chair and at least one of the other committee members must be from the Department of Journalism and Mass Communication. Normally, all members of a thesis committee will be members of the UWM graduate faculty. With the approval of the thesis advisor and the departmental graduate program committee, a student's thesis committee may include someone who is not a member of the UWM graduate faculty when such a person has at least a master's degree and greater expertise in the subject area than do available members of the graduate faculty.

The thesis advisor guides the student in writing a formal thesis proposal, which must be approved by the thesis committee. After the thesis proposal has been approved, the student carries out the proposed research.

The thesis committee evaluates the written thesis and conducts an oral examination at which the student defends his or her research. A student receives credit for the thesis only if all three members of the committee approve the thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

497 Study Abroad: (Subtitled). 1-12 cr. U/G. Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

500 Advanced Reporting. 3 cr. U/G. Advanced writing and reporting for newspapers, magazines, and the internet; emphasis on developing longer stories. Prereq: jr st; grade of C or better in JMC 203(P) or 204(P); or cons instr.

505 (effective 01/26/2009) Research for Strategic Communication. 3 cr. U/G. Examination of the research process through hands-on projects; how to formulate research questions, design questionnaires, collect data, and report and

interpret answers to these questions. Prereq: jr st; grade of C or better in JMC 207(P), 222(P), or 224(P); or cons instr.

505 Research for Strategic Communication. 3 cr. U/G.
Examination of the research process through hands-on projects; how to formulate research questions, design questionnaires, collect data, and report and interpret answers to these questions. Prereq: jr st; grade of C or better in JMC 307(P); or cons instr.

559 Law of Mass Communication. 3 cr. U/G.
Freedom of expression and legal issues in journalism, public relations, advertising, and other forms of mass communication. Prereq: jr st.

562 (662) Media Studies and Culture. 3 cr. U/G.
Mass media and the production of culture; media industries, content, and audiences; focus on contemporary issues. Prereq: jr st; grade of C or better in JMC 262(P).

600 Off-Campus Internship. 3 cr. U/G.
Professional internship in journalism, public relations, advertising, or other mass communication field. Prereq: jr st & declared JMC major, or grad st; cons internship committee.

614 Mass Media and Public Opinion. 3 cr. U/G.
Preparation to be critical consumer of polls and media coverage of them; theories and findings regarding propaganda and media influence on public opinion. Prereq: jr st.

615 The Mass Media and Politics. 3 cr. U/G.
How news media cover politics; role of traditional and new media in political campaigns; political content and effects of entertainment media and documentaries. Prereq: jr st.

620 Global Media Systems. 3 cr. U/G.
Economic, regulatory, and cultural characteristics of national and global mass media. Prereq: jr st.

645 (445) Health and the Media. 3 cr. U/G.
Theoretical frameworks for examination of media representations of health, illness, health care; impact of media consumption on health, illness; use of media in health promotion. Counts as a repeat of JMC 660 w/ health-related subtitle. Prereq: jr st.

659 Comparative Media Law. 3 cr. U/G.
Critical thinking and research about different countries' approaches to freedom of expression and legal issues relating to journalism, advertising, and other aspects of the media. Prereq: jr st; JMC 559 or cons instr.

660 Contemporary Issues in Mass Communication: (Subtitled). 3 cr. U/G.
Research-oriented approaches to theoretical and social issues in mass communication. Retakable w/chg in topic to 6 cr max. Prereq: jr st.

700 Introduction to Graduate Study in Mass Communication. 3 cr. G.
History of research in mass communication and of the field's subdisciplines; current research trends. Prereq: admis to MA prog in Mass Comm or cons instr.

701 Mass Communication Theory and Research Design: 3 cr. G.
Principles for generating research questions and hypotheses; fundamentals of research design, including reliability, validity, generalizability, and interpretation. Prereq: admis to MA prog in Mass Comm or cons instr.

810 Media Effects. 3 cr. G.
Cross-disciplinary examination of theoretical approaches, research methods, and findings in the study of mass media effects on beliefs, opinions, behavior, and policy; design and execution of a research project. Prereq: grad st.

815 Mass Media and Cultural Studies. 3 cr. G.
Cross-disciplinary examination of mass communication as a cultural process; design and execution of a research project. Prereq: grad st.

820 Persuasion in Mass Communication. 3 cr. G.
Examination of theoretical approaches, research methods, and findings in the study of persuasive mass communication; design and execution of a research project. Prereq: grad st.

830 Seminar in Mass Communication History. 3 cr. G.
Research on the history of mass communication. Examination of the dynamic social, economic and political settings for mass media. Prereq: grad st.

835 Politics and the Mass Media. 3 cr. G.
In-depth examination of the relationships between the mass media and politics in the united states, with a special focus on political campaigns. Prereq: grad st.

840 Topics in Media Law and Ethics: (Subtitled). 3 cr. G.
In-depth study and discussion of law and ethics as they relate to the mass media; development of original research for publication in scholarly journals. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

850 Global Media and Local Cultures. 3 cr. G.
Seminar covering major theories and critiques of globalization, with a particular emphasis on the study of media and culture. Prereq: grad st.

855 Digital Culture. 3 cr. G.
Use of cybertheory and critical theory to examine the history, cultures, communities, and social issues surrounding the internet, gaming, and other new media forms. Prereq: grad st.

860 Seminar in Mass Communication: (Subtitled). 3 cr. G.
In-depth study and discussion of a current topic in mass communication. Specific topics announced in the Timetable. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.
Available for grad students who must meet minimum cr load requirement. Fee assessed for 1 cr. Prereq: grad st.

990 Research and Thesis. 1-6 cr. G.
Production of a thesis under the supervision of the student's major professor with the consultation of the degree committee. Prereq: grad st; cons instr.

991 Professional Project. 1-6 cr. G.
Preparation and execution of a project which applies mass communication research and theory in a professional setting. Students enroll under major prof with consultation of degree committee. Prereq: grad st; cons instr.

999 Graduate Independent Study. 1-3 cr. G.
Supervised research of a particular topic area either not covered by other courses or at a level of sophistication beyond that of courses which cover the topic. Retakable to 6 cr max. Prereq: grad st; 3.00 grad gpa; writ cons grad dir.

MEDICAL INFORMATICS

- Phone: (414) 229-4677
- Fax: (414) 229-6958
- E-mail: medinfphd@uwm.edu

School/College: College of Engineering & Applied Science, Medical College of Wisconsin

Degrees Conferred:

- PhD in Medical Informatics

Overview

The PhD in Medical Informatics is an interdisciplinary doctoral program offered by UWM through collaboration between several academic units at UWM and the Medical College of Wisconsin. The Program is housed in the UWM Department of Electrical Engineering and Computer Science. It is guided by a Steering Committee consisting of faculty from the academic units participating in the Program.

Medical Informatics is a field that is concerned with the cognitive, information processing, and communication aspects of medicine and healthcare including the information sciences and technology to support these tasks. The field covers the application of information technology in clinical medicine, medical record keeping, medical instrumentation, and healthcare management.

The main goal of the PhD program is to prepare graduates to perform advanced research in the discipline and to assume leadership roles in medical and healthcare industries. The degree is philosophically conceptualized as involving several disciplines in a collaborative learning process with the goal of fostering inter-professional interactions and inquiry. This degree will build upon existing graduate programs and research in the participating units. Qualified students with strong academic records in any of these programs will be considered for admission.

Other participating units:

- College of Health Sciences
- College of Nursing
- Lubar School of Business
- School of Information Studies
- The Medical College of Wisconsin

Graduate Faculty

The program faculty for this interdisciplinary program come from the Medical College of Wisconsin and several academic units at UWM.

Medical College of Wisconsin

Professors

Hendee, William R., Ph.D., University of Texas, Austin
Kahn, Jr., Charles E., M.D, University of Illinois College of Medicine, Chicago
Quebbeman, Edward J., M.D., University of Illinois College of Medicine, Chicago; Ph.D., Medical College of Wisconsin

Associate Professors

Schapira, Marilyn May, M.D., University of Michigan
Weigle, Carl G.M., M.D., Albany Medical College
Wilson, Charles R., M.D., Albany Medical College

University of Wisconsin-Milwaukee

Professors

Dimitroff, Alexandra (School of Information Studies), Ph.D., University of Michigan
Gregory, William (College of Engineering and Applied Science, Ph.D., Massachusetts Institute of Technology
Jain, Hemant (Lubar School of Business), Ph.D., Lehigh University
Lang, Norma (College of Nursing), Ph.D., Marquette University
Lundeen, Sally (College of Nursing), Ph.D., University of Illinois- Chicago
Madsen, Mary K. (College of Health Sciences), Ph.D., University of Wisconsin-Madison
Misra, Devendra (College of Engineering and Applied Science), Ph.D., Michigan State University
Mone, Mark A. (Lubar School of Business), Ph.D., Washington State University
Priem, Richard L. (Lubar School of Business), Ph.D., University of Texas at Arlington
Ramamurthy, K. (Lubar School of Business), Ph.D. University of Pittsburgh
Reza, Ali (College of Engineering and Applied Science), Ph.D., University of Wyoming
Soofi, Ehsan S. (Lubar School of Business), Ph.D., University of California-Riverside
Vairavan, K. (College of Engineering and Applied Science), Ph.D., University of Notre Dame
Wolfram, Dietmar (School of Information Studies), Ph.D. University of Western Ontario
Zahedi, Fatemeh (Lubar School of Business), D.B.A., Indiana University
Zhang, Jun (College of Engineering and Applied Science), Ph.D., Rensselaer Polytechnic Institute

Associate Professors

Coenen, Amy (College of Nursing), Ph.D., University of Wisconsin-Milwaukee
Freeman, Sara J. (Lubar School of Business), Ph.D., University of Michigan
Haas, Timothy (Lubar School of Business), Ph.D., Colorado State University
Hosseini, Hossein (College of Engineering and Applied Science), Ph.D., University of Iowa
Klemer, David (College of Engineering and Applied Science), Ph.D., University of Michigan, M.D. Columbia University
Koohang, Alex (School of Information Studies), Ph.D., Southern Illinois University at Carbondale
Law, Chiu-Tai (College of Engineering and Applied Science), Ph.D., Purdue University
Lynch, John (College of Health Sciences), Ph.D., Marquette University
McRoy, Susan (College of Engineering and Applied Science), Ph.D., University of Toronto
Miller, Janice (Lubar School of Business), Ph.D., Arizona State University
Munson, Ethan (College of Engineering and Applied Science), Ph.D., University of California-Berkeley
Nazareth, Derek (Lubar School of Business), Ph.D., Case Western Reserve University
Trinh, Hanh Q. (College of Health Sciences), Ph.D., Virginia Commonwealth University
Zhang, Jin (School of Information Studies), Ph.D., University of Pittsburgh

Assistant Professors

Bockhorst, Joseph (College of Engineering and Applied Science), Ph.D., University of Wisconsin-Madison
Dumitrescu, Adrian (College of Engineering and Applied Science), Ph.D., Rutgers, The State University of New Jersey
Goyal, Mukul (College of Engineering and Applied Science), Ph.D., Ohio State University
Patrick, Timothy (College of Health Sciences), Ph.D., University of Missouri-Columbia
Mali, Amol (College of Engineering and Applied Science), Ph.D., Arizona State University
Reeves, Terrie (Lubar School of Business), Ph.D., University of Alabama at Birmingham
Wilson, E. Vance (Lubar School of Business), Ph.D., University of Colorado at Boulder
Wu, Min (College of Health Sciences), Ph.D., University of North Carolina at Chapel Hill
Xu, Guangwu (College of Engineering and Applied Science), Ph.D., State University of New York-Buffalo
Ying, Lei (College of Engineering and Applied Science), Ph.D., University of Illinois at Urbana-Champaign
Yu, Hong (College of Health Sciences), Ph.D., Columbia University
Zhao, Tian (College of Engineering and Applied Science), Ph.D., Purdue University

Doctor of Philosophy in Medical Informatics

Admission

An applicant must meet the UWM Graduate School requirements as well as the following to be considered for admission to the program:

Master's degree in Medical Informatics or a related area such as Computer Science, Electrical Engineering, Health Sciences, Business Administration, Nursing; or an MD degree. Exceptionally strong candidates with Bachelor's degree in a related area will also be considered for admission.

- At least two letters of recommendation that attest to academic and/or professional qualifications.
- Scores from the GRE (general) or GMAT or MCAT (test taken within the last five years.)

For applicants who intend to satisfy the English proficiency requirement by submission of test scores, a score of at least 250 on the computer-based (or 600 on the paper-based) Test of English as a Foreign Language (TOEFL) is required. A score of 6.5 on the international English Language Testing Systems (IELTS) examination will be required in lieu of the TOEFL.

The application for admission should be filed directly with the Graduate School, along with the statement of professional interest. Letters of recommendation, standardized test scores should be sent to: Co Director, Medical Informatics Program, College of Engineering and Applied Science, University of Wisconsin-Milwaukee, Milwaukee, WI 53201

Requests for financial support must also be submitted to the above person.

Major Professor as Advisor

The Graduate School requires that the student have a major professor to advise, supervise and approve the program of study before registering for courses. The Medical Informatics Steering Committee will assign the incoming student to a temporary Program Advisor at the time of admission. Prior to the completion of 12 credit (9 credits for a part-time student), the student must select a major professor who will be the student's dissertation advisor. The student, in consultation with the major professor, develops a program of study which is submitted to the Medical Informatics Steering Committee for approval. For subsequent changes, the student must file a revised program of study for approval.

Doctoral Program Committee

The Doctoral Program Committee is proposed by the Major Professor in consultation with the student by the end of the student's first year of enrollment. The Program Committee, subject to the approval of the Medical Informatics Steering Committee, shall consist of the Major Professor and at least four graduate faculty members, including at least one with health care and/or medical background, and one with informatics background.

Areas of Concentration

The PhD program requires a student to follow one of the following four areas of concentration. (At the time of application, each applicant should indicate a preferred area of concentration in their statement of Reasons for Graduate Study.)

Knowledge Based Systems Track

The Knowledge Based Systems track is designed to train students in the development of techniques to support decision-making in medical practice (including both clinical and administrative decision-making) and customized instruction on health and medical topics for patients and health care providers. Technical areas include decision analysis, expected utility theory and cost-effectiveness analysis, computer-based decision support systems, user modeling and user interface design, intelligent tutoring systems, knowledge representation, structured reporting, and data mining and knowledge discovery.

Health Services Management & Policy Track

Health services management and policy research is broad in scope and touches on all of the standard functional business areas (e.g., management, strategy and marketing, finance/economics, management information systems, human resources management) in addition to government health policy/reimbursement/regulation, insurance and other payer mechanisms, dealing with health professionals, and illness/health in individuals and in populations. The track is designed to equip students to deal with both management information and with population health and illness information and research to understand the implications of such information and research, and to transform inferences from that information and research into practical recommendations on the national, state, and local level. By its nature, it is applied to health services settings including hospitals, skilled-nursing facilities, medical group practices, public health agencies, mental health services, managed care organizations, and integrated health networks.

Health Information Systems Track

The track in Health Information Systems is designed to explore the role of administrative and clinical information systems in health care organizations. Attention will be directed at the design, implementation, and maintenance of the broad array of computer applications used in the health care industry. An interdisciplinary approach will be taken drawing on expertise from the health professions, management information systems, and library and information science. Curricular content will range from systems analysis and design, system efficacy and management, to e-commerce.

Medical Imaging and Instrumentation Track

The track in Medical Imaging and Instrumentation is designed to train students in understanding and developing medical imaging systems and medical electronic instrumentation. The aspects emphasized in this track are medical imaging systems, image processing, computer vision, pattern recognition, medical instrumentation development and optimization, computer modeling, applications of electric and magnetic fields, and wireless communication.

Credits and Courses

Students enrolled in this program must follow all UWM Graduate School requirements and regulations. The minimum requirement for the PhD in Medical Informatics will be 61-67 credits beyond the Bachelor's degree. Up to 24 credits from a related master's degree may be applied toward the PhD.

The curriculum will consist of a common set of core courses for all tracks, required and elective courses for each individual track, and the dissertation. The purpose of the core is to ensure that all graduates of the program share a basic common knowledge in Medical Informatics. The purpose of the tracks is to enable the students to develop significant strengths in specific sub-areas within Medical Informatics. The courses identified in the curriculum are offered by UWM or MCW and, in some case, by both institutions. Following are descriptions of these components and their corresponding credit requirements.

Core Courses

The core courses provide a comprehensive structure for the foundations needed for all students in Medical Informatics irrespective of their special interests. This includes a series of seminars that deal with different aspects of Medical Informatics. All students must take the following core courses or must have taken equivalent courses in previous study.

Core Courses (16 to 20 credits)

- MCW 13200(A,B) Medical Informatics, 6 quarter cr OR UWM HCA700 Health Care Informatics, 4-2 cr
- UWM CLSci701 and CLSci702 Human Pathophysiology, 6 cr
- MCW/UWM CompSci870 Medical Informatics Seminar, (Four 1-credit seminars), 4 cr

- UWM CompSci 557 or Bus Adm 749 Data Bases, 3 cr
- MCW 12202 Medical Ethics, 1 cr OR UWM Bus Adm 795 or HCA XXX (being developed), 1 cr

Knowledge Based Systems Track
33 credits of course work and 12 credits of dissertation are required.

Required Track Courses (12 Credits)
- Comp Sci 535: Data Structures, 3 cr
- Comp Sci 710: Artificial Intelligence, 3 cr
- Comp Sci XXX: Data Mining in Medicine, 3 cr
- Comp Sci 743: Intelligent User Interfaces, 3 cr

Required Mathematics & Quantitative Methods (6 credits)
Statistics (3 credits from the following list)
- Bus Adm 795: Seminar-in-Management: Multivariate Techniques in Management Research, 3 cr
- Bus Adm 912: Statistical Methods for Management Research, 3 cr
- Ed Psy 624: Educational Statistical Methods I, 3 cr
- Ind Eng/OccThpy/Nurs 786: Applied Biostatistics in Ergonomics, 3 cr
- Math 767: Statistical Methods for Engineers and Scientists, 3 cr
- Math Stat 761: Mathematical Statistics I, 3 cr

Probability (3 credits from the following list)
- Econ 413: Statistics for Economists, 3 cr
- Math 771: Theory of Probability, 3 cr

Elective Track Courses (15 Credits)
Dissertation (Minimum of 12 Credits)
- Comp Sci 998: Doctoral Thesis, credits vary

Health Services Management & Policy Track
33 credits of course work and 12 credits of dissertation are required.

Required Track Courses (18 Credits)
- Bus Adm 755: Health Care Administration, 3 cr
- Bus Adm 757: Managed Care and Integrated Health Networks, 3 cr
- Nurs 727: Epidemiology, 3 cr
- Bus Adm 744: Management of Information Systems, 3 cr
- Bus Adm 996: Doctoral Seminar in Organizations: Essential Topics in Strategic Management, 3 cr
- Bus Adm 996: Doctoral Seminar in Organizations: Advanced Topics in Strategic Management, 3 cr

Required Mathematics and/or Quantitative Methods (6 Credits)
- Bus Adm 918: Doctoral Seminar in Behavioral Research Techniques, 3 cr AND Bus Adm 795: Multivariate Techniques in Management Research, 3 cr
- OR
- Econ 513: Econometrics, 3 cr AND Econ 710: Applied Econometrics, 3 cr

Elective Track Courses (9 Credits)
Dissertation (Minimum of 12 Credits)
- Bus Adm 997: Doctoral Dissertation, credits vary

Health Information Systems Track
35 credits of course work and 12 credits of dissertation are required.

Required Track Courses (20 Credits)
- Bus Adm 744: Management of Information Systems, 3 cr
- Bus Adm 747: Systems Analysis and Design, 3 cr
- Comp Sci XXX/MCW XXX: Introduction to Medical Decision Making, 3 cr
- HCA 721: Health Information Technology Procurement, 2 cr
- HCA 723: Health Care Systems Applications - Administrative and Clinical, 3 cr
- HCA XXX: Advanced Concepts in Health Care Systems, 3 cr
- Comp Sci 759: Data Security, 3 cr OR Bus Adm 893: Infrastructure for Electronic Business, 3 cr

Research Methods (3 Credits from the following)
- Ind Eng 716: Engineering Statistical Analysis, 3 cr
- Ind Eng/OccThpy/Nurs 786: Applied Biostatistics in Ergonomics, 3 cr
- Bus Adm 714: Multivariate Techniques in Management Research, 3 cr
- Bus Adm 795: Seminar-in-Management: Multivariate Techniques in Management Research, 3 cr
- Bus Adm 912: Statistical Methods for Management Research, 3 cr
- Bus Adm 918: Doctoral Seminar in Behavioral Research Techniques, 3 cr
- Bus Adm 995: Doctoral Seminar in Decision Sciences, 3 cr
- Nurs 882: Qualitative Approaches to Nursing Research, 3 cr
- Nurs 883: Quantitative Approaches to Nursing Research, 3 cr

Elective Track Courses (12 Credits)
Dissertation (Minimum of 12 Credits)
- Comp Sci 998: Doctoral Thesis, credits vary

Medical Imaging & Instrumentation Track
33 credits of course work & 12 credits of dissertation are required

Required Track Courses (18 Credits)
- Elec Eng 436: Introduction to Medical Instrumentation, 3 cr
- Elec Eng 437: Introduction to Biomedical Imaging, 3 cr
- Elec Eng 711/ Comp Sci 711: Pattern Recognition Statistical, Neural and Fuzzy Approaches, 3 cr
- Elec Eng 712/COMPSCI712: Image Processing, 3 cr
- Elec Eng XXX: Advanced Medical Instrumentation, 3 cr
- Elec Eng 890/COMPSCI790: Special Topics in Medical Signal Processing and Imaging, 3 cr

Elective Track Courses (15 Credits)
Dissertation (Minimum of 12 Credits)
Doctoral Thesis
- Elec Eng 998, credits vary

Residence

The student must meet Graduate School residence requirements.

Qualifying Examination

A qualifying examination must be taken to determine whether the student is qualified to perform advanced doctoral level work in Medical Informatics. This examination is administered by the steering committee and must be taken prior to the completion of 21 credits of course work in the program.

Doctoral Preliminary Examination

The student is also required to take a preliminary examination after all the course work is completed and prior to the advancement of candidacy to determine the student's preparation for independent research. Prior to the examination, the student must present a proposal for a doctoral dissertation. The preliminary examination may cover both graduate course material and the dissertation proposal. The preliminary examination must be successfully completed within five years of initial enrollment.

Dissertation

The candidate must complete a dissertation presenting independent original research that adds to the existing body of knowledge in Medical Informatics. It should be of such caliber that warrants publication in respected journals.

Dissertation Defense

The final oral examination will be an oral defense of the dissertation but may also cover the general field of the primary area of study. The examination may not be taken until all other degree requirements are satisfied. A majority of the examination committee members must approve the dissertation in order for the student to pass. The final oral examination must be taken within five years after passing the preliminary examination. Candidates who exceed this time limit may be required to retake the preliminary examination and be admitted to candidacy a second time.

Time Limit

All components of the PhD program must be completed within 10 years of matriculation.

MULTIDISCIPLINARY COMMITTEE-DIRECTED PHD PROGRAM

School/College: Varies

Certificate Conferred:

- Multidisciplinary Committee-Directed PhD

Overview

This option is designed to meet the needs of highly qualified and motivated doctoral students who have academic interests that cannot be met by a single, existing UWM doctoral program. Those who have been admitted to this program typically have identified a multidisciplinary research topic before applying to a UWM doctoral program. It is the applicant.s responsibility to identify members of the UWM graduate faculty who would provide the necessary expertise and guidance for developing the multidisciplinary program proposal, and to obtain confirmation from these faculty that they are willing to serve as committee members through the completion of the program.

Students in this program are subject to all general Graduate School requirements for doctoral programs, including, but not limited to, minimum credits, residency, time limit, preliminary examination, proposal hearing, committee membership, and the dissertation defense.

Guidelines

1. Prospective students who have an interest in a multidisciplinary Ph.D. degree program should apply to the UWM doctoral degree program that is most closely related to their major interest.

2. When an existing doctoral program receives an application from a student who is considering a multidisciplinary degree program, it will treat it as it would all other applications for admission; all normal admissions criteria will be invoked. Since there can be no assurance of an alternate degree route for the student at the time of admission, the doctoral program must assume full normal responsibility for any student it admits, including guidance toward the completion of its designated doctoral degree.

3. The application for the special committee degree must be submitted to the Dean of the Graduate School on behalf of the student by the proposed major professor, and with the approval of the major professor's doctoral program. All proposals for this degree program must meet minimum Ph.D. requirements of the Graduate School. The application should clearly state:

    - The reasons the special committee program is needed with an explanation of why the student's needs cannot be met within existing programs.
    - The exact title of the proposed degree.
    - The proposed course and seminar program envisaged.
    - Any tool requirements of the dissertation (language, etc.) and how these requirements will be met.
    - The nature and scope of preliminary examinations.
    - The nature of the dissertation (general subject area).
    - The names of the chairperson and (a minimum of) four other graduate faculty members who have agreed to serve on the committee.

4. The major professor must be an approved doctoral adviser of the program to which the student is originally admitted. In signing off on the application for the Multidisciplinary Committee- Directed Ph.D. the program agrees to retain and keep all the student's records.

5. Multidisciplinary degree program proposals must come to the Graduate School within one year after admission to the doctoral program (or before the student has completed 12 credits in courses in the doctoral program). They must come to the Graduate School in a timely fashion; that is, where there is still a substantial portion of the program ahead of the student.

6. All applications must be approved both by the Graduate Curriculum Committee (GCC) and the Dean of the Graduate School. In all cases the Graduate School and the GCC will review applications to determine whether the proposed multidisciplinary program can be carried out within an established department or program, utilizing major and minor requirements or other available mechanisms. The suitability and degree of commitment of the supervisory committee for the proposed program will be examined.

7. Students in multidisciplinary degree programs are eligible for all categories of financial aid. They may be assigned teaching assistantships in participating departments or research or project assistantships with appropriate faculty members. Nominations for Graduate School and Dissertation Fellowships, AOP and other awards may be made by the GCC. Limitations set by the Fellowship Committee on the number of nominations to be made by individual programs will apply to the GCC, for multidisciplinary students.

8. The Graduate School is vitally concerned about maintaining active participation by all members of special degree committees in the ongoing Ph.D. programs of the students, and asks the individual members of the committees to assume all of the responsibilities which a department or program faculty provides in a conventional program.

MUSIC

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School/College: Milton and Lillian Peck School of the Arts

Degrees Conferred:
- Master of Music

Overview

The Department of Music offers a graduate program of study in music, preparing the student for a career in a performing area, music education, music history and literature, conducting, or theory and composition. The Master of Music program permits concentration in performance (voice or instrument), chamber music performance, conducting, music education, music history and literature, theory and composition, collaborative piano (vocal or instrumental), and string pedagogy. Students should consult the Department of Music for specific information regarding these concentrations.

MM/MLIS Coordinated Degree Program

In cooperation with the School of Information Studies, the Department of Music offers a MM/MLIS coordinated degree program to prepare students for positions as music librarians. Students in the program will concurrently pursue a Master of Music degree program (with a concentration in Music History and Literature) and a Master of Library and Information Science degree program. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree. For more detailed information on this program see Concentration in Music History and Literature later in this section and the Library and Information Science section of the Bulletin.

Graduate Faculty

Professors

Emmons, Scott, Ph.D., Eastman School of Music
Deutsch, Margery, M.M., State University of New York-Stony Brook
Hansen, Sharon, D.M.A., University of Missouri-Kansas City
Hartman, Kevin, M.M., Northwestern University
Jaimes, Judit, B. M., Curtis Institute of Music
Welstead, Jon, Ph.D., University of Iowa, Chair

Associate Professors

Brauner, Mitchell, Ph.D., Brandeis University
Errante, Valerie, D.M.A., Eastman School of Music
Heinrichs, William, Ph.D., University of Iowa
Kartman, Stefan, M.M., Northwestern University
Lavonis, William, D.M.A., University of Cincinnati
Peterson, Jeffrey, M.M., University of Illinois
Rodger, Gillian, Ph.D., University of Pittsburgh

Assistant Professors

Burns, Christopher, Ph.D., Stanford University
Flint, Gregory, B.M., Northwestern University
Rivera, José, Ph.D., Florida State University
Smith, Marsha Kindall, M.A., Ohio State University
Thomason-Redus, Caen, M.M., Rice University
Zinck, Bernard, M.M., The Julliard School

Master of Music

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

- Undergraduate music course background must include adequate preparation in music theory demonstrated through satisfactory completion of Music Theory, Levels I, II & III; Materials 127, 128, 226; Aural Skills 123, 124, 225; Keyboard Harmony 125, 126, 227; Form Analysis 230, Materials of 20th Century Music 421 - or equivalent courses.

- Preparation in music history and literature must be demonstrated through satisfactory completion of a two-semester survey course in development of music from earliest times to the present plus one semester of more specialized music history.

In addition to the application materials required by the Graduate School, those seeking admission to the Master of Music degree program must submit the following to the Director of Graduate Studies, Department of Music:

- A Graduate Music Application (available upon request from the Department of Music, 414-229-5162).
- A one-page resume of the applicant's performance experience and extracurricular activities.
- A one-page statement addressing the applicant's reasons for wishing to pursue a degree program at UWM, the applicant's career goals, and what he or she intends to do with a UWM degree.
- Three letters of recommendation.

In addition, auditions, entrance exams, other prerequisites, and portfolio reviews are required as follows:

Concentration in Instrumental or Vocal Performance, Chamber Music Performance, and Collaborative Piano

Applicant proposing concentration in Music Performance or Collaborative Piano must demonstrate outstanding performance skills. An on-site audition is required; in extreme cases, recorded examples of an applicant's performance may be accepted in lieu of an in-person audition. Applicant should contact faculty in the appropriate performance area to inquire about specific audition repertoire and procedures.

Applicant proposing voice studies must demonstrate undergraduate study or other proficiency in two foreign languages. A voice diagnostic exam will be given at the audition in the areas of diction, literature, pedagogy and related vocal subjects to determine proficiency.

Concentration in Choral or Instrumental Conducting and MM in Music Education-Conducting Emphasis

Applicant should contact choral, wind ensemble/band, or orchestral faculty to inquire about specific audition and entrance exam procedures.

Concentration in Music Composition

Applicant should preferably have experience in computer notation and MIDI applications.

Applicant must submit portfolio of original compositions, which could include tapes and/or computer MIDI programs, in addition to at least one excerpt or complete composition in conventional notated form.

Concentration in Music Education

Applicant must have an undergraduate degree in music education with certification and teaching experience, except by special permission.

Applicant should contact faculty in the Music Education area to inquire about other entrance requirements.

An audition is required only if the applicant plans to take performance lessons.

Concentration in Music History and Literature

Applicant must have a reading knowledge of a language other than English, preferably German.

Applicant must submit two examples of written work (essays, research papers).

Concentration in String Pedagogy

Applicant should contact faculty in the appropriate string and String Pedagogy areas to inquire about audition and additional entrance requirements.

While prospective students are not required to submit Graduate Record Examination scores, they are strongly advised to take these tests before or early in their graduate work if they wish to be considered for a UWM Graduate School Fellowship or if they plan to continue their graduate work after completing a master's degree at UWM.

Diagnostic examinations in both music history and music theory are required of all entering and transferring graduate students before their first semester of study at UWM. Exceptions will be granted in extenuating circumstances. In no case will students be allowed to proceed beyond the first year of graduate study without having taken the diagnostic exams. These examinations assist the faculty in determining whether the student may proceed with required graduate courses, or whether they first need to remove deficiencies.

Applicants exhibiting deficiencies in music history will be required to enroll in Graduate Music History (Music 704), and those exhibiting deficiencies in music theory will be required to enroll in Graduate Theory Foundations (Music 703); these courses must be passed with a minimum grade of "B" or better. Additionally, other areas of deficiency may require further review. Graduate Music History may count toward the degree as an elective. Credits earned in making up deficiencies in music theory do not count toward the degree. The following courses are recommended to fulfill the graduate theory elective requirement: Music 680, 731, 744.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at time of admission should immediately contact the Director of Graduate Studies.

Concentration in Chamber Music Performance

This concentration is designed for the instrumentalist who is admitted by audition to the Institute of Chamber Music at UW-Milwaukee. The major focus of the Institute of Chamber Music is to provide professional training experiences in the performance of chamber repertoire through well-matched chamber ensembles from duos through large chamber ensembles. The student who successfully completes 24 specified credits and the recital requirement receives a Performer's Certificate from the Institute; the student who successfully completes 33 specified credits and the other degree requirements receives a Master of Music with a concentration in Chamber Music Performance.

Credits and Courses

Minimum certificate requirement is 24 credits; minimum master's degree requirement is 33 credits. Each student follows an integrated curriculum in which all subjects are related and no course is optional.

Specific Required Courses - 21 cr

- Music 710 Graduate Studies in Music, 3 cr *
- Music 711 Graduate Seminar in Music History, 3 cr *
- Music xxx Graduate theory elective, 3 cr *
- Music 806 Chamber Music Master Class, 4 cr
- Music 835 Chamber Music Coaching, 8 cr

Group Recital Requirement (met at end of program)

- MusPerf 855 Instrumental Master Class, 4 cr (1 cr each for 4 semesters)
- MusPerf 8xx Performance (Instrument Lessons), 8 cr (2 cr each for 4 semesters)

*Not required in Performer's Certificate.

Students in the Institute of Chamber Music are admitted for a two-year program of study. Students are either part of an existing chamber group before entrance or, when admitted, assigned to a group. If the first-year group does not continue for a second year, the student must re-audition for membership in a new or reconstituted group that is acceptable to the faculty in order to continue for a second year of study.

At the end of the first year, each student's performance is judged by the Director of the Institute in consultation with the members of the ICM advisory committee. If a student does not meet the required performance level, the student is prevented from continuing in the Institute for a second year. The student may, if acceptable to the Department graduate faculty, choose to follow another graduate program in the Department.

Thesis Recital

The recital should be given no sooner than the final semester of coursework. The student ensemble must present a program which has been approved by the Graduate Committee and by the Director of the Institute of Chamber Music. This requirement applies both to candidates for the MM in Chamber Music Performance and to the student working toward the Performer's Certificate.

Comprehensive Examination

Comprehensive examinations in both music history and music theory will be required of each student in the MM in Chamber Music Performance concentration. This requirement normally follows successful completion of a recital requirement. Comprehensives are not required of students seeking the Performer's Certificate.

Time Limit

The student must complete all degree or certificate requirements within four years of initial enrollment.

Concentration in Collaborative Piano (Vocal or Instrumental)

This concentration is designed for the music student with an undergraduate degree in piano who wishes to specialize as a collaborative pianist in either the vocal or instrumental repertoire. A student must successfully pass an audition that demonstrates an advanced level of collaborative skill to qualify for admission to the program.

Credits and Courses

Minimum degree requirement is 32 graduate credits, 28 of which must be in specified music areas, 2 of which must be in another music area, and 2 of which may be in one of the other areas or in a related field.

Specific Required Courses (12 cr)

- Music 710 Graduate Studies in Music, 3 cr
- Music 711 Graduate Seminar in Music History, 3 cr
- Music xxx Graduate theory elective, 3 cr
- Music 990 Research of Thesis (Recital), 3 cr

Performance Credits

Vocal

- MusPerf 703 Collaborative Piano - Vocal, 8 cr (2 cr each for 4 semesters)
- MusPerf 705 Techniques of Opera Coaching and Accompanying, 4 cr (1 cr each for 4 semesters)

Instrumental

- MusPerf 704 Collaborative Piano - Instrumental, 8 cr (2 cr each for 4 semesters)
- MusPerf 706 Sonatas - Piano and String, 4 cr (1 cr each for 4 semesters)

Répertoire

Vocal

- Music 753 Advanced Song Literature I, 2 cr
- Music 754 Advanced Song Literature II, 2 cr

Instrumental

- Music 755 Advanced Instrumental Performance Repertoire: Strings, 2 cr

- Music 757 Advanced Instrumental Performance Repertoire: Brass and Woodwinds, 2 cr

Electives
- Music, 2 cr
- General, 2 cr

The program must also include 3 credits in Music 314 (Music of the 20th Century), if not previously completed.

For Vocal Collaborative majors: proficiency in French, German, and Italian diction is determined through a reading of song and aria texts for collaborative and voice faculties. Students whose diction skills are deficient are required to enroll in the appropriate course without degree credit. Completion of the course with a grade of B or better satisfies the deficiency.

Recital

The recital should be given no sooner than the final semester of coursework. The student must present a collaborative recital including a performance of a twentieth-century composition by an American composer. The proposed program must be approved by the Graduate Committee of the Department of Music, and the student must present a satisfactory recital audition before the recital may be scheduled.

Comprehensive Examination

The student must pass final comprehensive examinations in both music history and music theory. This requirement normally follows successful completion of the recital requirement.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Concentration in Conducting (Choral or Instrumental)

This concentration is designed primarily for the student with an undergraduate degree in music education or performance who wishes to pursue advanced training in conducting plus related studies in music performance and allied areas. A student must successfully pass an audition which demonstrates an advanced level of conducting skill to qualify for admission to the program. Students may also have to pass other audition(s) in performance area(s), depending on their focus.

Credits and Courses

Minimum degree requirement is 31 graduate credits, 29 of which must be in specified music areas, 2 of which may be in one of the other areas or in a related field.

Specific Required Courses - 15 cr
- Music 710 Graduate Studies in Music, 3 cr
- Music 711 Graduate Seminar in Music History, 3 cr
- Music xxx Graduate theory elective, 3 cr
- Music 732 Score Reading, 3 cr
- Music 990 Research of Thesis (Public Performance), 3 cr

Conducting - 6 cr
- Music 553 Advanced Conducting I, 2 cr
- Music 554 Advanced Conducting II, 2 cr
- Music 771 Advanced Conducting III, 2 cr

Literature - 3 cr (Select ONE)
- Music 559 The Wind Band: Its History and Literature, 3 cr
- Music 615 Choral Literature, 3 cr
- Music 799 Advanced Independent Work (Orchestral Literature), 3 cr

Performance - 2 cr *
- MusPerf xxx Private Lessons, 1 cr
- MusPerf xxx Private Lessons, 1 cr

Ensemble - 3 cr **
- Music xxx Ensemble, 1 cr
- Music xxx Ensemble, 1 cr
- Music xxx Ensemble, 1 cr

Electives

General, 2 cr

The program must also include Music 314 (Music of the 20th Century), if not previously completed.

Voice and Voice Pedagogy required for MM Choral emphasis.

**Ensemble will be assigned upon audition.

Thesis (Public Performance)

The student must present a recital demonstrating conducting abilities. Performance of literature from a variety of style periods, including a twentieth-century composition by an American composer, should be included. The proposed program must be approved by the Graduate Committee before the recital may be scheduled. Candidates must also prepare a written document, following all procedures as dictated by the Graduate Committee, in consultation with their main advisor. (The student should consult with the primary faculty advisor for individual area guidelines.)

Comprehensive Examination

The student must pass final comprehensive examinations in both music history and music theory. This requirement normally follows successful completion of the thesis requirement.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Concentration in Music Composition

This concentration is designed for the person possessing creative talent in acquiring and utilizing the techniques and craft of musical composition.

Admission

An applicant who meets Graduate School requirements and has a bachelor's degree from an accredited institution may be considered for admission. A student must submit evidence of advanced compositional skills (scores, tapes, computer generated notation and/or MIDI materials) to qualify for admission to this program. Applicant should possess keyboard proficiency of a level permitting the candidate to sight-read music of moderate difficulty and performance capability of compositions at the level of an early Beethoven sonata or Bach's Two-part Inventions.

Credits and Courses

Minimum degree requirement is 32 graduate credits, including:

Specific Required Courses - 18 cr
- Music 710 Graduate Studies in Music, 3 cr
- Music 711 Graduate Seminar in Music History, 3 cr
- Music 731 Twentieth-Century Theories, 3 cr
- Music 744 Graduate Theory Seminar, 3 cr
- Music 327 Analog and Digital Synthesis I, 3 cr OR Music 328 Digital Synthesis and Systems II, 3 cr OR Music 420 Advanced Computing and Music, 3 cr
- Music 990 Research of Thesis, 3 cr

Composition Requirement - 8 cr
- MusPerf 761 Advanced Composition. (2 cr each for 4 semesters)

Electives
- Music Theory, 6 cr
- Music, 3 cr

Recommended Electives

Music 327, 328, 420, 421, 680

Electives must be chosen in accordance with the needs of the individual candidate and with the advice and consent of the advisor or major professor.

Thesis

The candidate for the Master of Music in Composition degree must complete two compositions. One must be for large ensemble (orchestra, wind symphony, or choir), with or without electronic component. The other may be for electronic medium alone, or for chamber

group or large ensemble, with or without electronic component.

Comprehensive Examination

The student must pass final comprehensive examinations in both music history and music theory.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Concentration in Music Education

This concentration is designed for students and teachers who wish to advance their knowledge and skills in both music and music pedagogy.

Admission

The same requirements apply as those stated under Master of Music except that the audition is only required if the student plans to take performance lessons at the 600 level. Applicants should have an undergraduate degree in music education with certification and teaching experience except by special permission.

Credits and Courses

Minimum degree requirement is 30 graduate credits.

Specific Required Courses - 18-21 cr
- Music 710 Graduate Studies in Music, 3 cr
- Music 711 Graduate Seminar in Music History, 3 cr
- Music xxx Graduate theory elective, 3 cr
- MusEd 777 Foundations of Music Education, 3 cr
- MusEd 778 Recent Developments in Music Education, 3 cr
- MusEd 990 Research of Thesis (Thesis or Project), 3-6 cr

Electives
- Music Education - 4-7 cr
- Performance, Conducting, Theory, Music History, or related areas - 5 cr

Thesis or Final Project

A formal written thesis, lecture/recital, composition with pedagogical intent and analysis, major annotated bibliography, curriculum synthesis, or other type of music education project is required. The student must submit a written proposal to the major advisor to be approved by the Graduate Committee prior to registration. Credit will be assigned according to the nature of the project.

Examination in the Major

The student must pass a final written examination in music and music education. This exam will reflect the nature of the student's program of studies. Further questions concerning the exam should be directed toward the student's major advisor.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Concentration in Music History and Literature

This concentration is designed primarily for students who wish to do advanced study in music history and literature. For some students, the degree is a terminal degree (for example, music teachers who may wish to pursue graduate work in music history rather than in music education), while for others it serves as preparation for the study of musicology at the doctoral level.

The concentration in the MM/MLIS coordinated degree program is designed to prepare students for positions as music librarians. For students interested in this program, all requirements and standards of the Music History and Literature concentration are exactly as described in the following description with the single exception that the 3-credit general elective requirement is replaced by a requirement of 30 credits taken in courses approved by the School of Information Studies as fulfilling requirements for the MM/MLIS program.

Credits and Courses

Minimum degree requirement is 30 graduate credits, 27 of which must be in specified music areas, 3 of which may be in one of the other areas or in a related field.

Specific Required Courses - 20 cr
- Music 450 Introduction to Musicology, 3 cr
- Music 452 Collegium Musicum, 2 cr (1 cr each for two semesters)
- Music 710 Graduate Studies in Music, 3 cr
- Music 711 Graduate Seminar in Music History, 3 cr
- Music xxx Graduate theory elective, 3 cr
- Music 911 Seminar in Musicology, 3 cr
- Music 990 Thesis, 3 cr

Electives
- Music History - 3 cr
- Other Areas of Music - 4 cr
- General Electives (UG or G), 3 cr (or 30 credits in Library Science if MM/MLIS major)

The program must also include Music 314 (Music of the 20th Century), if not previously completed.

Reading knowledge of German, French or Italian (see below for specific details).

Language Requirement

Candidates for the Master of Music degree with a concentration in Music History and Literature must demonstrate a reading knowledge of German, French, or Italian. The examiner, a member of the music history faculty, will choose several paragraphs totaling approximately 500 words taken from a suitable book or periodical article approved by the advisor, and dealing with a musical topic, and ask for a written translation. The candidate may use a dictionary. The results of the test will be communicated by the examiner to the Music History and Literature area Chair. Candidates failing the exam the first time may take it a second time, provided an appropriate interval has elapsed.

Thesis

The student must submit an acceptable thesis or thesis equivalent, which must be read and approved by both the student's thesis advisor and a second reader belonging to the Graduate Faculty. Appropriate thesis equivalents may be:

1. Two revised or expanded seminar papers totaling between 30 and 40 pages of text; or

2. One revised or expanded seminar paper, plus one of the following:

    - a comprehensive review essay of an edition or major musical monograph.

    - a concentrated study of the life and work of a musician or musical scholar.

Comprehensive Examination

The student must pass final written comprehensive examinations in both music history and music theory.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Concentration in Performance (Voice or Instrument)

This concentration is designed for the music student who wishes to concentrate primarily on the major performing skill. The student may specialize in either voice or instrument (piano, woodwind, brass, percussion, strings, guitar). A

student must successfully pass an audition at an advanced level of performance to qualify for admission to the program.

Credits and Courses

Minimum degree requirement is 30 graduate credits, 28 of which must be in specified music areas, 2 of which may be in one of the other areas or in a related field.

Specific Required Courses - 12 cr
- Music 710 Graduate Studies in Music, 3 cr
- Music 711 Graduate Seminar in Music History, 3 cr
- Music xxx Graduate theory elective, 3 cr
- Music 990 Recital, 3 cr

Performance Credits (664-7xx), 9 cr
Advanced Performance Repertoire (4 cr total)
- Strings: 2 cr in Music 755; 2 cr in Music 782
- Wind, Brass, Percussion: 2 cr in Music 757 or 763; 2 cr in Music 758, 782, 788, or 789
- Voice: 2 cr in Music 753; 2 cr in Music 457, 458, 795, 796, or 798
- Keyboard: 2 cr in Music 751; 2 cr in Music 752
- Guitar: 2 cr in Music 765; 2 cr in Music 766

Electives
Music (U/G or G), 3 cr
General (U/G or G), 2 cr

The program must also include 3 credits in Music 314 (Music of the 20th Century), if not previously completed.

Recital

The recital should be given no sooner than the final semester of coursework. The student must present a recital including a performance of a twentieth-century composition by an American composer. The proposed program must be approved by the Graduate Committee, and the student must present a satisfactory recital audition before the recital may be scheduled.

Comprehensive Examination

The student must pass final comprehensive examinations in both music history and music theory. This requirement normally follows successful completion of the recital requirement.

Ensemble Participation

The student of violin, viola, violoncello, or contrabass is required to participate in Symphony Orchestra each semester in which the student is registered for music performance in the major instrument. Two of these semesters (2 credits) fulfill the Orchestra requirement for the degree. A maximum of 2 additional semesters (2 credits) of Orchestra may be applied toward the master's degree. All other students, vocal as well as instrumental (except those with keyboard or guitar concentrations), are required to be enrolled in an approved performing organization each semester in which the student is registered for music performance instruction in the major instrument.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Concentration in String Pedagogy

This concentration is designed for the music student who wishes to concentrate primarily on the pedagogy of his/her major performing string instrument. A student must successfully pass an audition at a satisfactory level of performance for admission to the program.

Credits and Courses

Minimum degree requirement is 34 graduate credits, all of which must be in specified music areas.

Specific Required Courses - 10 cr
- Music 710 Graduate Studies in Music, 3 cr
- Music 711 Graduate Seminar in Music History, 3 cr
- Music xxx Graduate theory elective, 3 cr
- Music 991 Recital and Lecture Demonstration, 1 cr

Performance - 16 cr
- MusPerf 541 or 542 or 543 Master Class in String Instruments, 2 cr (1 cr each for 2 semesters)
- MusPerf 7xx String Instruments Violin/Viola/Cello, 8 cr (2 cr each for 4 semesters)
- Music 782 Symphony Orchestra, 2 cr (1 cr each for 2 semesters)
- Music 755 Advanced Instrumental Performance Repertoire I: Strings, 2 cr
- Music 756 Advanced Instrumental Performance Repertoire II: Strings, 2 cr

Pedagogy - 8 cr
- Music 718 or 722 Violin/Viola/Cello Pedagogy Level I, 2 cr
- Music 719 or 723 Violin/Viola/Cello Pedagogy Level II, 2 cr
- Music 720 or 721 or 724 Violin/Viola/Cello Pedagogy Level III, 2 cr
- Music 829 Seminar: Historical Perspectives on Violin, Viola, and Cello Pedagogy, 2 cr

Recital and Lecture Demonstration

The recital and lecture demonstration may be given at any time before the completion of the degree program. The recital consists of two parts: (a) a performance of a minimum of 30-45 minutes of music that has been approved by the major teacher; and (b) a lecture totaling approximately 30 minutes to be given before, during, or after the recital, in which the candidate discusses one or more pieces to be performed on the recital program, with emphasis on pedagogical values of the piece(s), the difficulties, and how they are overcome.

Comprehensive Examination

The student must pass final comprehensive examinations in both music history and music theory. This requirement normally follows successful completion of the recital requirement.

Ensemble Participation

The student is required to participate in an approved performing organization each semester in which the student is registered for music performance instruction in the major instrument; in two of these semesters the student must be enrolled in Symphony Orchestra for credit (see Performance Credits above).

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Performer's Certificate in Opera and Vocal Arts

The Performer's Certificate in Opera and Vocal Arts is designed for pre-professional/post-baccalaureate singers who, because of the natural size of their vocal instrument, their intelligence, stage savvy, maturity, professional focus, and significant prior experience in the art form of opera at the collegiate level, have the prerequisites necessary for aspiring to an operatic career.

Admission

Students must submit an application to both the Graduate School and the Department of Music, as well as three letters of recommendation (two of which should be from professionals in the field), and a detailed written statement of their career goals and intent. Applicants for the certificate program must hold a bachelor's degree. In addition, applicants must complete an audition that will consist of the presentation of five diverse opera arias, which may include musical theater repertoire, with appropriate staging. Adjudicators will include UWM voice faculty and operatic professionals outside of the university.

Credits and Courses

Minimum certificate requirement is 24 credits. Each student follows the curriculum described below. No course is optional.

Specific Required Courses - 24 cr

- MusPerf 711 Voice (3 crs. each for 3 semesters), 9 cr
- MusPerf 511 Master Class in Voice, 1 cr
- Music 446 Vocal Pedagogy, 1 cr
- Music 458 Opera Apprenticeship (2 crs. each for 4 semesters), 8 cr (Includes acting, dance, and music administration in conjunction with an approved local arts organization)
- Music 753 Advanced Song Literature I, 2 cr
- Music 990 Recital, 3 cr

Language Requirement

Candidates for the Performer's Certificate in Opera and Vocal Arts must demonstrate a musical performance proficiency in Italian, German, and French. If a student demonstrates deficiencies in any of these areas, the student will, through independent study, address these deficiencies through an approved program of study.

Performance Requirement

Performance of a major role with either the UWM Opera Theater or one of the local professional opera company partners is required.

Recital

The student must present a recital including vocal compositions in at least three languages, one of which may be an operatic selection. The program must be approved by the Certificate Program Committee, and the student will be required to produce complete program notes, texts, and translations for all pieces on the recital program. The recital must be presented at UWM and at one off-campus, public venue.

Transfer of Credits — Master of Music to Performer's Certificate

The program does not allow transfer of credits from other institutions. However, students who have already completed coursework in vocal performance at the graduate level at UWM may transfer up to 14 credits from the UWM Master of Music degree program into the Performer's Certificate program. Courses which may transfer into the Performer's Certificate Program include: Voice, up to 9 credits; Song Literature, up to 2 credits; Vocal Pedagogy, up to 1 credit; and Opera Apprenticeship, up to 2 credits.

Transfer of Credits — Performer's Certificate to Master of Music

Upon completion of the Performer's Certificate, students may opt to pursue a Master of Music degree in vocal performance, but this may not be done concurrently with the certificate program. A separate application for the M.M. is required. Students complete the M.M. degree by adding the necessary academic coursework (Music 710 Graduate Studies in Music, Music 711 Graduate Seminar in Music History, Music xxx, graduate theory elective) and by successful completion of the graduate final comprehensive examinations in music history and music theory. Students who enroll in voice lessons as part of the M.M. are required to participate in one of the advanced vocal ensembles.

Time Limit

The program is designed to be a two-year program. However, students may, upon approval of the Program Committee, opt to take a third year. Students may also take, upon approval of the Program Committee, a leave of absence of up to one year in the course of the program.

Courses - Music

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

308 Selected Topics in Music History and Literature: (Subtitled). 3 cr. U/G.
An in-depth study of selected genres in western music, the composers and their works. Topic to be announced in Schedule of Classes. May be retaken with change of topic to max of 9 cr. Prereq: jr st; Music 211(P), 212(P), 307(P); 4 semesters of music theory.

309 American Folk and Popular Music. 2 cr. U/G.
A survey of American folk and popular music from 1750 to the present. Study of european and african music elements and their intersection in american musical forms. Prereq: jr st or cons instr.

310 Introduction to World Musics. 3 cr. U/G.
Study of musical genres from selected world cultures with an emphasis on musical sound and structure, and performance in cultural context. Prereq: jr st or cons instr.

311 Music of the Baroque Era. 3 cr. U/G.
A survey of music from the baroque era in which selected composers and their compositions will be studied. Prereq: jr st; Music 211, 212, 307; 4 sem of music theory.

312 Music of the Classic Era. 3 cr. U/G.
A survey of music from the classical era in which selected composers and their compositions will be studied. Prereq: jr st; Music 211, 212, 307; 4 sem of music theory.

313 Music of the Romantic Era. 3 cr. U/G.
A survey of the romantic era in which selected composers and their compositions will be studied. Prereq: jr st, Music 211, 212, 307; 4 sem music theory.

314 Music of the 20th Century. 3 cr. U/G.
A survey of music in the 20th century, in which selected composers and their compositions will be studied. Prereq: jr st; Music 211, 212, 307; 4 sem music theory.

317 Introduction to American Music. 3 cr. U/G.
Introductory survey of folk, indigenous, popular and art music of the United States. Prereq: jr st or grad st.

326 Advanced Aural Theory. 1 cr. U/G.
Continuation of Aural Theory 226 with advanced work in the development of aural skills and dictation in linear and vertical aspects of diatonic, chromatic and atonal music. Prereq: jr st; Music 225(P) & 226(P).

327 Analog and Digital Synthesis I. 3 cr. U/G.
Introduction to analog and digital electronic sound synthesis, recording and audio mixing, acoustics and electronic music history. Individual work in analog and digital music studios. Prereq: jr st, music major; or cons instr; Music 220(R).

328 Digital Synthesis and Systems II. 3 cr. U/G.
Application of digital sound media and advanced midi; computing, synthesis, synthesizers, sampling, digital recording and editing methods. Individual projects utilizing the digital music studios. Prereq: jr st; Music major; Music 327(P); previous experience in computers & music; or cons instr.

410 Topics in World Music: (Subtitled). 3 cr. U/G.
Topics vary. Covers the music of a single country, geographic region, or aspects of a particular topic in world music in depth. May be retaken w/chg in topic to 6 cr max. Prereq: jr st & Music 310(P); or grad st or cons instr.

420 Advanced Computing and Music. 3 cr. U/G.
Advanced application of microcomputers in midi, digital synthesis, electronic orchestration, and varied media interfaces as applied to composition. Individual work in computer music lab Prereq: jr st; music major; Music 220(P); previous experience in computers & music; or cons instr.

421 Materials of Contemporary Music. 3 cr. U/G.
Study and analysis of the techniques and styles in contemporary music. Prereq: jr st & Music 230(P).

446 Vocal Pedagogy. 2 cr. U/G.
Techniques for training the singing voice derived from the study of vocal anatomy, various pedagogy texts, and the observation and teaching of voice lessons. Prereq: jr st & cons instr.

447 String Pedagogy in the Studio. 2 cr. U/G.
Topics include: technique (instrument hold, shifting, vibrato, spiccato, etc.), historical survey (tartini, baillot, auer, flesch, etc). Information delivery techniques, master

teacher profile, recent trends. Prereq: jr st; cons instr.

449 Women in Music: (Subtitled). 3 cr. U/G.
Women's roles in musical life; their contributions as performers and composers to various musical styles and repertoires; comparison of their activities with those of men. Specific topics and any additional prerequisites announced in Schedule of Classes each time course is offered. May be repeated with change of topic to max of 6 cr. Prereq: jr st; cons instr.

450 Introduction to Musicology. 3 cr. U/G.
Study of the development of modern musicological methodology and its fields of research including ethnomusicology. Prereq: jr st; cons instr.

452 Collegium Musicum. 1-2 cr. U/G.
Vocal and instrumental groups devoted to the study and performance of music from twelfth through the eighteenth century. Music majors enroll for 1 cr per sem; others for 1 or 2 cr. Prereq: jr st; cons instr.

457 Opera Theatre. 0-3 cr. U/G.
A concentrated study of the literature and techniques for the musical stage. May be retaken to max of 4 sem. Students needing 0 cr should enroll for Music 457-Z; those needing 1-3 cr should enroll for Music 457-C and specify number of cr. Students who enroll for 0 cr will be assessed a 1-cr fee by the University. Prereq: cons instr & major teacher.

458 Opera Apprenticeship. 0-3 cr. U/G.
A specialized course reflecting an apprenticeship program with an approved off-campus, professional opera company. May be retaken to max of 4 sem. Students needing 0 cr should enroll for Music 458-Z; those needing 1-3 cr should enroll for Music 458-C and specify number of cr. Students who enroll for 0 cr will be assessed fees for 1 cr. Prereq: jr st; audition; & vocal performance major.

489 Workshop: (Subtitled). 1-4 cr. U/G.
Specific topic announced in the Schedule of Classes. Prereq: jr st; additional prereq announced each offering.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Studio and special studies designed to provide relevant course work for a study abroad program in music. May be retaken with change in topic to max of 12 cr. Prereq: jr st; cons instr & acceptance for Study Abroad Prog.

523 Orchestration. 2 cr. U/G.
Study of representative works by means of score, phonograph records, and attendance at rehearsals of the university orchestra and band. Scoring for orchestra and band. Prereq: jr st & Music 323.

524 Orchestration. 2 cr. U/G.
A continuation of Music 523. Prereq: Music 523.

553 Advanced Conducting I. 2 cr. U/G.
Advanced study and analysis of conducting techniques. Score reading and interpretation of masterpieces from the standard repertoire. Prereq: sr st & cons instr.

554 Advanced Conducting II. 2 cr. U/G.
Continuation of Music 553. Prereq: sr st, Music 553(P) & cons instr.

559 The Wind Band: Its History and Literature. 3 cr. U/G.
Examination of origins and historical significance of the wind band, including a survey of its instrumentation and literature. Prereq: jr st; cons instr.

561 Advanced Chamber Music. 1-3 cr. U/G.
Upper level undergraduate and graduate students to perform and study the chamber literature (duets, trios, quartets, etc). Open to performance majors. May not be substituted for the required credits in applied music, band or orchestra except by special permission. May be retaken to max of 9 cr. Prereq: jr st; cons instr.

611 Survey of Medieval Music. 3 cr. U/G.
A survey of medieval music based upon the study of representative works. Introduction to medieval theory and performance practices. Prereq: jr st; Music 211, 212, 307, & 4 sem Music theory.

612 Survey of Renaissance Music. 3 cr. U/G.
A survey of renaissance music based upon the study of representative works. Introduction to renaissance theory and performance practice. Prereq: jr st; Music 211, 212, 307 & 4 sem Music theory.

620 Advanced Percussion Pedagogy. 1-2 cr. U/G.
Techniques for developing and teaching mallet and stick control. Model lesson procedures; methods, music (solo and ensemble) and equipment selection. Prereq: jr st.

623 Soundscaping: 3 cr. U/G.
Creation of musical compositions, 'soundscapes' via group. Individual projects involving experimentation with an illustration of various aspects of twentieth century compositional techniques and sound sources. May be retaken to max of 6 cr. Prereq: jr st; writ cons instr.

680 Special Studies in Music: (Subtitled). 1-3 cr. U/G.
Specific topic will be announced in Schedule of Classes when offered. May be retaken with change of topic to max of 9 cr. Prereq: jr st or cons instr.

691 Senior Thesis. 2 cr. U/G.
- Prereq: sr st. Not available for grad cr at this time.

692 Senior Thesis II. 2 cr. U/G.
- Prereq: sr st. Not available for grad cr at this time.

693 Apprenticeship: (Subtitled). 1-4 cr. U/G.
Open to select advanced students who will work as paraprofessionals under the guidance of a program designed jointly by the student, the music department curriculum committee, and a professional mentor approved by the curriculum committee. Prereq: jr st; cons curric comm.

703 Graduate Theory Review. 3 cr. G.
A course for graduate students to include tonal/atonal theory, keyboard harmony, sight singing and ear training. The course may not be taken to fulfill a graduate music degree requirement. Prereq: grad st; recom of theory faculty.

704 Graduate Music History. 3 cr. G.
An intensive study of selected musical styles and representative repertory in the western tradition from the middle ages through the present, with a focus on listening and score study, the comparison of musical styles from different periods, and discussion of important historical trends. Prereq: grad st; recom of music history faculty.

710 Graduate Studies in Music. 3 cr. G.
Bibliography and methods for research and paper writing in the field of music. Prereq: grad st.

711 Graduate Seminar in Music History: (Subtitled). 3 cr. G.
Topics vary. An in-depth study of selected musical works, focusing on a close analysis of scores, historical research, and paper writing. Specific topics and any additional prerequisites announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st & Music 710.

715 Choral Literature. 3 cr. G.
In-depth investigation of choral repertoire from 1450 to present day, including a study of major genres, composers, styles, and performance practice. Prereq: grad st.

718 Violin and Viola Pedagogy Level I. 2 cr. G.
A systematic methodology for taking a student through the formative stages of violin and viola playing. Lecture classes, observation or group and individual lessons, supervised teaching in lab setting. Prereq: grad st or cons instr; Music major.

719 Violin and Viola Pedagogy Level II. 2 cr. G.
A systematic methodology for taking a student from the formative stages of violin and viola playing through the technically and musically more advanced levels. Lecture classes, observation of group and individual instruction, supervised teaching in lab setting. Prereq: grad st; music major; Music 718(P); or cons instr.

720 Violin Pedagogy Level III. 2 cr. G.
Advanced emphasis on the teaching of advanced scales, significant violin etudes and major repertoire. Lecture and demonstration classes, observation of group and individual instruction, supervised teaching in lab setting. Prereq: grad st; Music 719(P); or cons instr.

721 Viola Pedagogy Level III. 2 cr. G.
Advanced emphasis on the teaching of advanced scales, significant etudes

(Kreutzer & Campagnoli), orchestral excerpts as teaching etudes, and selected study of advanced viola repertoire. Lecture and demonstration classes, observation of group and individual lessons, supervised teaching in lab setting. Prereq: grad st; Music 719(P); or cons instr.

722 Cello Pedagogy Level I. 2 cr. G.
A systematic methodology for taking a student from the first lessons through the formative stage of cello playing. Lecture classes, observation of group and individual lessons, supervised teaching in lab setting. Prereq: grad st or cons instr.

723 Cello Pedagogy Level II. 2 cr. G.
A systematic methodology for taking a student from the formative stage of cello playing through the technically and musically more advanced level. Specific skills include how to teach vibrato and shifting. Lecture classes, observation of group and individual instruction, supervised teaching in lab setting. Prereq: grad st; Music 722(P); or cons instr.

724 Cello Pedagogy Level III. 2 cr. G.
Advanced emphasis on the teaching of advanced scales, significant etudes and selected study of major repertoire. Lecture and demonstration classes; observation of group and individual instruction, supervised teaching in a lab setting. Prereq: grad st; Music 723(P); or cons instr.

730 Advanced Form. 3 cr. G.
An in-depth examination of organizational principles that composers have utilized in their compositions across many periods and styles. Specific works chosen to illustrate these characteristics may vary with each class offering. Prereq: grad st.

731 Contemporary Composition Techniques. 3 cr. G.
Contemporary compositional techniques; their theoretical, aesthetic, and historical relationship. Advanced analysis of scores utilizing these techniques. Prereq: grad st.

732 Score Reading. 3 cr. G.
Reading at the piano from full score. Procedure and practice in piano reduction are studied and applied. The classical, romantic, and contemporary periods are emphasized. Prereq: grad st; some ability at key board.

744 Graduate Theory Seminar. 3 cr. G.
Current theoretical approaches to a wide range of musical styles. Prereq: grad st; diagnostic test or Music 703 with grade of B or better.

751 Advanced Piano Repertoire I. 2 cr. G.
Advanced study of the piano repertoire, including works of all representative periods. Prereq: grad st; Music 276.

752 Advanced Piano Repertoire II. 2 cr. G.
Advanced study of the piano repertoire, including works of all representative periods. Prereq: grad st; Music 751(P).

753 Advanced Song Literature I. 2 cr. G.
Art songs of Great Britain, Germany and France through recordings, in-class performances and lectures. Given alternate years. Prereq: grad st & cons instr.

754 Advanced Song Literature II. 2 cr. G.
The advanced study and performance of art song or solo song cycles, addressing the special needs of pianists in the role of a vocal coach/accompanist. Prereq: grad st in collaborative piano or cons instr.

755 Advanced Instrumental Repertoire I: Strings. 2 cr. G.
Comprehensive study of the solo and ensemble literature for string instruments through study, performance, and listening. Prereq: grad st; cons instr.

756 Advanced Instrumental Repertoire II: Strings. 2 cr. G.
Comprehensive study of solo and ensemble literature for string instruments through study, performance, and listening. Prereq: grad st; cons instr.

757 Advanced Instrumental Repertoire I: Brass and Woodwinds. 2 cr. G.
Comprehensive study of the solo and ensemble literature for brass and woodwind instruments through study, performance, and listening. Prereq: grad st; cons instr.

758 Advanced Instrumental Repertoire II: Brass and Woodwinds. 2 cr. G.
Comprehensive study of the solo and ensemble literature for brass and woodwind instruments through study, performance, and listening. Prereq: grad st; cons instr.

759 Advanced Organ Repertoire I. 2 cr. G.
Advanced study of the solo organ repertoire from the 16th century to the modern period through study, recorded examples, in-class performances and lectures. Prereq: grad st; cons instr.

760 Advanced Organ Repertoire II. 2 cr. G.
In depth study of selected solo organ repertoire through study, recorded examples, in-class performances and lectures. Prereq: grad st; cons instr.

762 Contemporary Music Ensemble. 3 cr. G.
For music majors with advanced instrumental and vocal competence. Rehearsals and concert series devoted to complex works by contemporary composers. Prereq: grad st; cons instr.

763 Advanced Percussion Performance Repertoire. 2 cr. G.
A comprehensive study of the solo and ensemble repertoire for typmani/percussion through study, performance and listening. Prereq: grad st; Music 279 or cons instr.

765 Advanced Instrumental Repertoire I: Guitar. 2 cr. G.
Comprehensive study of the solo and ensemble literature for guitar through study, performance, and listening. Prereq: grad st; cons instr.

766 Advanced Instrumental Repertoire II: Guitar. 2 cr. G.
Continuing study of solo and ensemble literature for guitar through study, performance, listening. Prereq: grad st; Music 765(P); cons instr

769 Graduate Choral Conducting I. 2 cr. G.
Study of conducting problems in choral works of divergent styles/periods. Projects assigned to meet specific student need. Prereq: grad st; admis to MM choral perf or music ed (choral emphasis); UG choral cond course(s); prof cond exp; cons instr.

770 Graduate Choral Conducting II. 2 cr. G.
Continuing study of conducting problems in choral works of divergent styles/periods. Projects assigned to meet specific student need. Prereq: grad st; Music 769(P) or 553(P); cons instr.

771 Graduate Choral Conducting III. 2 cr. G.
Advanced analysis of architectural, stylistic and gestural concerns in choral works of divergent styles/periods. Projects assigned to meet specific student need. Supervised conducting time with student's own ensemble. Prereq: grad st; Music 770(P) or 554(P).

772 Advanced Instrumental Conducting. 2 cr. G.
Study of conducting problems in instrumental works of all periods. Projects will be assigned to meet the background and needs of students. Practical experience will be gained by conducting university groups. Prereq: grad st & Music 554.

781 University Community Orchestra. 1 cr. G.
Rehearsal and performance of orchestral music. Intended for non-music majors, music majors playing their secondary instrument, and community members. Prereq: grad st.

782 Symphony Orchestra. 1 cr. G.
For music majors with advanced playing experience. Rehearsals are devoted to reading orchestral literature of the 18th, 19th, and 20th centuries. Prereq: grad st & cons instr.

783 Chamber Orchestra. 1 cr. G.
An exploration of literature for chamber orchestra through rehearsal and performance. For Music majors who meet audition req. Prereq: grad st & cons instr

784 Opera Orchestra. 1 cr. G.
Orchestra to prepare and perform the uwm opera. Rehearsals and performances according to announced schedule. Members eligible to enroll in Theatre 575. Prereq: grad st & cons instr; music major

788 Symphony Band. 1 cr. G.
- For Music majors with advanced playing experience. Prereq: grad st & cons instr.

789 Wind Ensemble. 1 cr. G.
- For Music majors with advanced playing experience. Prereq: grad st & cons instr.

795 Concert Chorale. 1 cr. G.
This highly select mixed ensemble performs advanced level music from all periods of choral literature, utilizing instruments when appropriate. Auditions take place during the first week of each new semester. May be retaken to combined

max of 6 sem. Prereq: grad st; audition & cons instr.

796 Chamber Choir. 1 cr. G.
Study and performance of madrigals and vocal chamber music of all styles and periods. Auditions 1st week each sem. Required for 2nd year mm students in vocal performance. Prereq: grad st; cons instr; audition

798 University Choir. 1 cr. G.
This large mixed chorus rehearses and performs choral masterpieces from all periods of choral literature, utilizing instrumentalists when appropriate. Voice placements take place during first week of each new semester. May be retaken to combined max of 6 sem. Prereq: grad st; cons instr; audition.

799 Advanced Independent Work. 1-3 cr. G.
The student must apply for scheduling advanced independent work with the graduate committee, if possible during the semester preceding the project. Prereq: grad st.

804 Ensemble Techniques. 1 cr. G.
Laboratory sessions under the direction of music performance staff who coach specially formed ensembles. Students perform various works through rehearsal and discuss various techniques of performance. May be retaken each sem to a max of 4 cr. Prereq: grad st; admis to ICM; writ cons dir of ICM

806 Chamber Music Master Class. 1 cr. G.
Student participation and stage performance of chamber music with discussion of critiques by institute faculty and guest artists. May be repeated to max of 4 cr. Prereq: grad st; admis to ICM, writ cons director of ICM.

811 Seminar In Baroque Music. 3 cr. G.
\Investigation of problems of the Music of the Baroque era with reference to the evolution of musical styles in Western Europe from 1600-1750. Prereq: grad st; cons instr

829 Seminar: Historical Perspectives On Violin, Viola And Cello Pedagogy. 2 cr. G.
Traces evolution of modern instruments and teaching methods, and explores interdisciplinary tools and resources for the string teacher. Prereq: grad st; Music 720(P), 721(P), 724(P); or cons instr.

830 Studies In The History And Literature Of Chamber Music I. 2 cr. G.
Survey of the literature and history of chamber music. Topics for study will change, depending in part on needs and interests of institute members. Prereq: grad st; admis to the ICM; writ cons director ICM

831 Studies In The History And Literature Of Chamber Music II. 2 cr. G.
Advanced study in literature of chamber works for various combinations. Prereq: grad st; admis to ICM; writ cons director ICM; Music 830

832 Theoretical Concepts In Chamber Music Practice. 2 cr. G.
Includes discussion of theoretical concepts related to the field of chamber music. Prereq: grad st; admis to ICM; writ cons of director of ICM

833 Twentieth Century Techniques. 2 cr. G.
Studies in twentieth century theoretical/compositional techniques in music. Prereq: grad st; admis to the ICM; writ cons of director of ICM; Music 832

835 Chamber Music Coaching. 2 cr. G.
Weekly ensemble coaching by ICM faculty and guest artists. Public performance required. May be repeated to a max of 8 cr. Prereq: grad st; admis to ICM; writ cons director of ICM.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirements. Fee for 1 cr assessed. Prereq: grad st.

911 Seminar In Musicology I. 3 cr. G.
Research seminar devoted to the investigation of musical problems. May serve as a basis for developing thesis projects, research papers, and lecture-recitals. Prereq: grad st

990 Research of Thesis. 3 cr. G.
Thesis or thesis equivalent in music history, recital, lecture-recital, public performance, or composition. Approval of subject and assignment to staff member by the graduate committee. Prereq: grad st.

991 Recital And Lecture Demonstration. 1 cr. G.
Public recital and lecture demonstration for string pedagogy students. Approval of subject by student's major teacher and the music graduate committee required. Open only to string pedagogy students. Prereq: grad st; cons instr

999 Research (Independent Work). 1-3 cr. G.
Approval of project and assignment to staff member by graduate committee. Prereq: grad st.

Courses - Music Performance

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

501 Master Class in Keyboard Instruments, Piano. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

502 Master Class in Keyboard Instruments, Organ. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to music majors only. Prereq: jr st & cons instr.

511 Master Class in Voice. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

521 Master Class in Woodwind Instruments, Flute. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

522 Master Class in Woodwind Instruments, Oboe. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

523 Master Class in Woodwind Instruments, Clarinet. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

524 Master Class in Woodwind Instruments, Saxophone. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

525 Master Class in Woodwind Instruments, Bassoon. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

531 Master Class in Brass Instruments, French Horn. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

532 Master Class in Brass Instruments, Trumpet-Cornet. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

533 Master Class in Brass Instruments, Trombone. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

534 Master Class in Brass Instruments, Baritone. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

535 Master Class in Brass Instruments, Tuba. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

541 Master Class in String Instruments, Violin. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

542 Master Class in String Instruments, Viola. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

543 Master Class in String Instruments, Violoncello. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

544 Master Class in String Instruments, Bass Viol. 1 cr. U/G.

- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

545 Master Class in String Instruments, Harp. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr. Not available for grad cr.

546 Master Class in Guitar. 1 cr. U/G.
Master Class in Guitar supplements the student's private lesson by providing an opportunity for students to perform and critique repertoire and discuss related topics. Counts as repeat of Music 280 with topics 'Master Class - Jazz,' '- Fingerstyle,' and '- Classical.' May be retaken to max of 6 cr. Open to Music majors only. Prereq: jr st, cons instr.

551 Master Class in Percussion. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

561 Master Class in Composition. 1 cr. U/G.
- May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

701 Keyboard Instruments, Piano. 3 cr. G.
Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

702 Keyboard Instruments, Organ. 3 cr. G.
Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

703 Collaborative Piano - Vocal. 2 cr. G.
Study and performance of the art song repertoire; development of sight reading, transposition, and vocal coaching skills. May be repeated to max of 8 cr. Open to Music majors only. Prereq: grad st; cons instr; audition.

704 Collaborative Piano - Instrumental. 2 cr. G.
Study and performance of the standard wind and string solo and ensemble repertoire (excluding string sonatas); piano reductions of orchestral accompaniments. Open to Music majors only. Prereq: grad st; cons instr; audition.

705 Techniques of Opera Coaching and Accompanying. 1 cr. G.
Introduction to opera coaching and accompanying skills. Students will observe and accompany opera workshop rehearsals and public performances. May be repeated to max of 4 cr. Open to Music majors only. Prereq: grad st; cons instr; audition.

706 Sonatas, Piano and String. 1 cr. G.
Study and performance of the standard piano and string sonata repertoire from all periods. May be repeated to max of 4 cr. Open to Music majors only. Prereq: grad st; cons instr; audition.

711 Voice. 3 cr. G.
Principal performance study for graduate students in Music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

721 Woodwind Instruments, Flute. 3 cr. G.
Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

722 Woodwind Instruments, Oboe. 3 cr. G.
Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

723 Woodwind Instruments, Clarinet. 3 cr. G.
Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

724 Woodwind Instruments, Saxophone. 3 cr. G.
Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

725 Woodwind Instruments, Bassoon. 3 cr. G.
Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

731 Brass Instruments, French Horn. 3 cr. G.
Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

732 Brass Instruments, Trumpet-Cornet. 3 cr. G.
Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

733 Brass Instruments, Trombone. 3 cr. G.
Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

734 Brass Instruments, Baritone. 3 cr. G.
Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

735 Brass Instruments, Tuba. 3 cr. G.
Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

741 String Instruments, Violin. 2-3 cr. G.
Principal performance study for graduate students concentrating in violin performance (3 cr), or principal instrumental study for graduate students concentrating in string pedagogy (2 cr). May be repeated to max of 12 cr (performance students), or 8 cr (string pedagogy students). Open to Music majors only. Prereq: grad st; cons instr.

742 String Instruments, Viola. 2-3 cr. G.
Principal performance study for graduate students concentrating in viola performance (3 cr), or principal instrumental study for graduate students concentrating in string pedagogy (2 cr). May be repeated to max of 12 cr (performance students), or 8 cr (string pedagogy students). Open to Music majors only. Prereq: grad st; cons instr.

743 String Instruments, Violoncello. 2-3 cr. G.
Principal performance study for graduate students concentrating in violoncello performance (3 cr), or principal instrumental study for graduate students concentrating in string pedagogy (2 cr). May be repeated to max of 12 cr (performance students), or 8 cr (string pedagogy students). Open to Music majors only. Prereq: grad st; cons instr.

744 String Instruments, Bass Viol. 3 cr. G.
Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

745 String Instruments, Harp. 3 cr. G.
Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

746 Guitar. 3 cr. G.
Principal performance study for graduate students concentrating in guitar performance. May be repeated to 12 cr max. Open to Music majors only. Prereq: grad st; cons instr.

751 Percussion. 3 cr. G.
Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

761 Advanced Composition. 2 cr. G.
Advanced independent performance study in musical composition. May be repeated to total of 8 cr. Prereq: grad st; cons instr.

801 Keyboard Instruments, Piano. 2 cr. G.
Principal performance study in solo and chamber works for institute of chamber music students on their major instrument. Public performance required. Open to ICM students only. Prereq: grad st; cons instr.

821 Woodwind Instruments, Flute. 2 cr. G.
Principal performance study in solo and chamber works for institute of chamber music students on their major instrument. Public performance required. Open to ICM students only. Prereq: grad st; cons instr.

822 Woodwind Instruments, Oboe. 2 cr. G.
Principal performance study for solo and chamber works for institute of chamber music students on their major instrument. Public performance required. Open to ICM students only. Prereq: grad st; cons instr.

823 Woodwind Instruments, Clarinet. 2 cr. G.
Principal performance study in solo and chamber works for institute of chamber music students on their major instrument. Public performance required. Open to ICM students only. Prereq: grad st; cons instr.

825 Woodwind Instruments, Bassoon. 2 cr. G.

Principal performance study in solo and chamber works for institute of chamber music students on their major instrument. Public performance required. Open to ICM students only. Prereq: grad st; cons instr.

831 Brass Instruments, French Horn. 2 cr. G.
Principal performance study in solo and chamber works for institute of chamber music students on their major instrument. Open to ICM students only. Prereq: grad st; cons instr.

841 String Instruments, Violin. 2 cr. G.
Principal performance study in solo and chamber works for institute of chamber music students on their major instrument. Public performance required. Open to ICM students only. Prereq: grad st; cons instr.

842 String Instruments, Viola. 2 cr. G.
Principal performance study in solo and chamber works for institute of chamber music students on their major instrument. Public performance required. Open to ICM students only. Prereq: grad st; cons instr.

843 String Instruments, Violoncello. 2 cr. G.
Principal performance study in solo and chamber works for institute of chamber music students on their major instrument. Public performance required. Open to ICM students only. Prereq: grad st; cons instr.

855 Instrumental Master Class. 1 cr. G.
Discussion of individual instrumental techniques in chamber music playing. Literature studied depending on group experience and interest. May be repeated to max of 4 cr. Prereq: grad st; admis to ICM; writ cons director of ICM.

901 (601) Keyboard Instruments, Piano. 1 cr. G.
Principal performance study for graduate students in music in their non-major areas. Counts as repeat of MusPerf 601. May be repeated to max of 6 cr. Music majors only. Prereq: grad st; cons instr.

902 (602) Keyboard Instruments, Organ. 1 cr. G.
Principal applied music study for graduate students in music in their non-major areas. Counts as repeat of MusPerf 601. May be repeated to max of 6 cr. Music majors only. Prereq: grad st; cons instr.

903 (603) Keyboard Instruments, Harpsichord. 1 cr. G.
Principal applied music study for graduate students in music in their non-major areas. Counts as repeat of MusPerf 603. May be repeated to max of 6 cr. Music majors only. Prereq: grad st; cons instr.

911 (611) Voice. 1 cr. G.
Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 601. May be repeated to max of 6 cr. Music majors only. Prereq: grad st; cons instr.

921 (621) Woodwind Instruments, Flute. 1 cr. G.
Principal applied music study for graduate students in music in their non-major areas. Counts as repeat of MusPerf 621. May be repeated to max of 6 cr. Music majors only. Prereq: grad st; cons instr.

922 (622) Woodwind Instruments, Oboe. 1 cr. G.
Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 621. May be repeated to max of 6 cr. Music majors only. Prereq: grad st; cons instr.

923 (623) Woodwind Instruments, Clarinet. 1 cr. G.
Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 623. May be repeated to max of 6 cr. Open to music majors only. Prereq: grad st; cons instr.

924 (624) Woodwind Instruments, Saxophone. 1 cr. G.
Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 624. May be repeated to max of 6 cr. Open to music majors only. Prereq: grad st; cons instr.

925 (625) Woodwind Instruments, Bassoon. 1 cr. G.
Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 625. May be repeated to max of 6 cr. Open to music majors only. Prereq: grad st; cons instr.

931 (631) Brass Instruments, French Horn. 1 cr. G.
Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 631. May be repeated to max of 6 cr. Open to music majors only. Prereq: grad st; cons instr.

932 (632) Brass Instruments, Trumpet-Cornet. 1 cr. G.
Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 632. May be repeated to max of 6 cr. Open to music majors only. Prereq: grad st; cons instr.

933 (633) Brass Instruments, Trombone. 1 cr. G.
Principal performance study for graduate students in music in their non-major area. Counts as a repeat of MusPerf 633. May be repeated to max of 6 cr. Open to music majors only. Prereq: grad st; cons instr.

934 (634) Brass Instruments, Baritone. 1 cr. G.
Principal performance study for graduate students in music in their non-major areas. Counts as a repeat of MusPerf 634. May be repeated to max of 6 cr. Open to music majors only. Prereq: grad st; cons instr.

935 (635) Brass Instruments, Tuba. 1 cr. G.
Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 635. May be repeated to max of 6 cr. Open to music majors only. Prereq: grad st; cons instr.

941 (641) String Instruments, Violin. 1 cr. G.
Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 641. May be repeated to max of 6 cr. Open to Music majors only. Prereq: grad st; cons instr.

942 (642) String Instruments, Viola. 1 cr. G.
Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 642. May be repeated to max of 6 cr. Open to Music majors only. Prereq: grad st; cons instr.

943 (643) String Instruments, Violoncello. 1 cr. G.
Principal performance study for graduate students in music in their non-major area. Counts as repeat of Musperf 643. May be repeated to max of 6 cr. Open to Music majors only. Prereq: grad st; cons instr.

944 (644) String Instruments, Bass Viol. 1 cr. G.
Principal applied music study for graduate students in music in their non-major areas. Counts as repeat of MusPerf 644. May be repeated to max of 6 cr. Open to Music majors only. Prereq: grad st; cons instr.

945 (645) String Instruments, Harp. 1 cr. G.
Principal applied music study for graduate students in music in their non-major areas. Counts as repeat of MusPerf 645. May be repeated to max of 6 cr. Open to Music majors only. Prereq: grad st; cons instr.

946 Guitar. 1 cr. G.
Principal performance study for graduate students in music in their non-major area. May be repeated to a 6 cr max. Open to Music majors only. Prereq: grad st; cons instr

951 (651) Percussion. 1 cr. G.
Principal applied music study for graduate students in music in their non-major areas. Counts as repeat of MusPerf 651. May be repeated to max of 6 cr. Open to Music majors only. Prereq: grad st; cons instr.

Courses - Music Education

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

777 Foundations of Music Education. 3 cr. G.
Studies in the history and philosophy of music education, aesthetics, and basic research design. Discussion of current curricular practices as compared with traditional music education. Prereq: grad st.

778 Recent Developments in Music Education. 3 cr. G.
Studies in music curriculum trends and related socio-cultural factors. Influences of Orff, Kodaly, Dalcroze, Manhattanville, CMP, the Yale seminar, and the Tanglewood symposium. Prereq: grad st.

780 General Music Methods and Materials. 2 cr. G.
New approaches to secondary general music--particularly jr high related arts/humanities, films, filmstrip packages,

records and book resources. Development of teaching units. Prereq: grad st.

781 Seminar in Elementary Music. 2-3 cr. G.
Study of the principal approaches to teaching elementary classroom music. Work with appropriate resources. Prereq: grad st.

782 Music Education Seminar: (Subtitled). 1-3 cr. G.
Special offerings on subjects not covered by the basic seminars and other elective music education courses. Prereq: grad st.

783 World Music Drumming: Level 1. 3 cr. G.
Perform and teach hand drumming ensembles from West Africa and the Caribbean. Prereq: cons instr.

784 World Music Drumming: Level 2. 3 cr. G.
Learn additional drum ensembles and songs from West Africa, Zimbabwe, the Caribbean, and Brazil. Play xylophone and flute pieces from these areas. Prereq: Mus Ed 783 or cons instr.

785 World Music Drumming: Level 3. 3 cr. G.
Perform and lead drum, xylophone, flute ensembles and songs from Ghana and the Caribbean. Prereq: Mus Ed 784 or cons instr.

799 Independent Study in Music Education. 1-3 cr. G.
Detailed independent work under a major professor in an area of Music Education not covered by available courses. Prereq: grad st & cons instr.

990 Thesis or Final Project. 1-6 cr. G.
Formal written thesis, lecture/recital, major annotated bibliography, curriculum synthesis, or other type of music education project. Must submit proposal to advisor in Music Education and be approved by the Graduate Committee. Retakeable to max of 6 cr. Prereq: grad st.

NONPROFIT MANAGEMENT AND LEADERSHIP

- Phone: (414) 229-3176
- Fax: (414) 229-4477
- E-mail: lcp@uwm.edu or jpsmith@uwm.edu

School/College: College of Letters and Science and Sheldon B. Lubar School of Business

Degrees Conferred:

- Master of Science in Nonprofit Management and Leadership

Overview

The College of Letters and Science and the Sheldon B. Lubar School of Business offer and present jointly the Master of Science (M.S.) in Nonprofit Management and Leadership. The program is designed to provide students with the essential theoretical and practical knowledge and skills needed to be successful in managing and leading nonprofit sector organizations.

Graduate Faculty

Professors

Anderson, Margo, Ph.D. Rutgers University (History)
Cheng, Rita, Ph.D. Temple University, CPA, Provost and Vice Chancellor for Academic Affairs and A.O. Smith Professor (Business)
Ethridge, Marcus, Ph.D., Vanderbilt University (Political Science)
Greer, Ann, Ph.D., Northwestern University (Sociology)
Martin, Larry, Ph.D., University of Wisconsin-Madison (Administrative Leadership)
Peracchio, Laura, Ph.D., Northwestern University (Business)
Percy, Stephen, Ph.D., Indiana University (Political Science)
Ragins, Belle Rose, Ph.D., University of Tennessee (Business)

Associate Professors

Arnold, Patricia, Ph.D., University of Wisconsin-Madison, CPA (Business)
Freeman, Sarah, Ph.D., University of Michigan (Business)
Ihrke, Douglas, Ph.D., Northern Illinois University (Political Science)
Kozub, Robert, D.B.A., University of Kentucky (Business)
Lee, Mordecai, Ph.D., Syracuse University (Political Science)
Padgett, Deborah, Ph.D., Washington University (Social Work)
Rodriguez, Joseph, Ph.D., University of California-Berkeley (History)

Assistant Professors

Akdere, Mesut, Ph.D., University of Minnesota-Twin Cities (Administrative Leadership)
Bohte, John, Ph.D., Texas A+M University (Political Science)
Kao, Yi-Ching, Ph.D., University of Texas at Dallas (Business)
Nikolaeva, Ralitza, Ph.D., Purdue University (Business)
Rast, Joel, Ph.D., University of Oregon (Political Science)
Singh, Romila, Ph.D., Drexel University (Business)

Master of Science in Nonprofit Management and Leadership

Admission

To be admitted to the M.S. in Nonprofit Management and Leadership degree program, an applicant must meet Graduate School requirements.

During the admissions process, students will be asked to show evidence of having satisfactorily completed undergraduate or higher level foundation coursework in the principles of accounting and economics. Those students who are unable to show such evidence may be admitted with these academic deficiencies but will then meet with their respective academic advisors to identify and obtain approval for what they must do to remove these deficiencies.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Applicants must submit the following for review by the Graduate School and the Nonprofit Management Program Faculty Committee:

1. Official transcripts from all colleges or universities previously attended.

2. Three letters of recommendation from persons familiar with the applicant's academic ability and/or professional achievements.

3. Scores from either the Graduate Record Examination (GRE) or the Graduate Management Admissions Test (GMAT).

4. For those students whose native language is not English, minimum TOEFL score (Test of English as a Foreign Language) of 213 (CBT) or IELTS score (International English Language Testing System) of 6.5.

5. Each student's academic preparation is evaluated at the time of application. A personal interview may be required.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at the time of admission should immediately contact the Program Director.

Credits and Courses

The M. S. in Nonprofit Management and Leadership degree requires satisfactory completion of 39 credits of graduate-level course work including 27 credit-hours of required or "constrained choice" courses and 12 credit-hours of elective courses as follows:

Required Courses (27 Credits)

Introductory Course (3 cr)
One of the following three courses (students may not receive credit toward the degree for more than one of these courses)

- BusMgmt 718 Concepts and Practice of Nonprofit Management
- Pol Sci 789 Theory and Role of Nonprofit Organizations
- Sociol/Pol Sci/Urb Std 704 Seminar in Nonprofit Organizations

Core Courses (21 cr)

- BusMgmt 721 Fundraising and Development for Nonprofit Organizations
- BusMgmt 724 Accounting for Nonprofit Organizations
- BusMgmt 725 Governance and Executive Leadership of Nonprofit Organizations
- Pol Sci 792 Decision-Making Methods for Nonprofit and Public Organizations
- Pol Sci 793 Law of Nonprofit Organizations
- *One of the following three courses:*
- Bus Adm 766 Marketing for Nonprofit Organizations
- Pol Sci 705 Professionals and Volunteers in Nonprofit Organizations
- Pol Sci 791 Nonprofit Advocacy and Public Policy
- *One of the following eight courses:*
- AdmLdsp 777 Leadership in Multicultural Organizations
- Bus Adm 441 Diversity in Organizations
- Bus Adm 733 Organizational Development
- BusMgmt 706 Managing in a Dynamic Environment
- BusMgmt 707 Information Technology for Competitive Advantage
- Pol Sci 958 Seminar in Public Administration: Managing Change in Public and Nonprofit Organizations
- Sociol 732 Complex Organizations
- Sociol 780 Race and Ethnic Relations

Capstone Course (3 cr)

- BusMgmt 730 Strategic Management and Leadership for Nonprofit Organizations *This course will serve as the integrative "capstone" requirement for the program and must be taken after completing all other required courses (or concurrently with the final required courses).*

Elective Courses (12 Credits)

Additional courses may be approved as electives; see program office for complete list.

- AdmLdsp 777 Leadership in Multicultural Organizations (if not selected above)
- Bus Adm 441 Diversity in Organizations (if not selected above)
- Bus Adm 733 Organizational Development (if not selected above)
- Bus Adm 737 Managerial Decisions and Negotiations
- Bus Adm 738 Human Resources Management
- Bus Adm 766 Marketing for Nonprofit Organizations (if not selected above)
- BusMgmt 706 Managing in a Dynamic Environment (if not selected above)
- BusMgmt 707 Information Technology for Competitive Advantage (if not selected above)
- BusMgmt 709 Data Analysis for Management Applications
- BusMgmt 710 Economic Analysis for Managers
- BusMgmt 715 Leadership, Teambuilding, and Effective Management
- Pol Sci 705 Professionals and Volunteers in Nonprofit Organizations (if not selected above)
- Pol Sci 769 Analyzing and Evaluating Public Policies and Programs
- Pol Sci 791 Nonprofit Advocacy and Public Policy (if not selected above)
- Pol Sci 958 Seminar in Public Administration: Managing Change in Public and Nonprofit Organizations (if not selected above)
- Sociol 443 Organizations, Occupations, and Professions
- Sociol 705 Theory and Method in Social Organizations
- Sociol 732 Complex Organizations (if not selected above)
- Sociol 780 Race and Ethnic Relations (if not selected above)
- Soc Wrk 794 Advanced Research Methods: Evaluating Social Welfare Programs (2 crs)
- Urb Std 720 Theory and Method in Local Economic Development
- Urb Std 725 Methods of Urban Community Development
- Urb Std 733 Public Program Evaluation

Total Degree Credits Required: 39 Credit Hours

Thesis

Not Required

Comprehensive Examination

Not Required

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Courses

Descriptions of required and elective courses offered at UWM as part of the M.S. in Nonprofit Management and Leadership can be found under the respective curricular areas (see below).

- Business Management (Bus Mgmt)
- Political Science (Pol Sci)
- Business Administration (Bus Adm)
- Sociology (Sociol)
- Urban Studies (Urb St)
- Administrative Leadership (Ad Ldsp)

NURSING

- Phone: (414) 229-5482
- Fax: (414) 229-6474
- E-mail: deanbaar@uwm.edu

School/College: College of Nursing

Degrees Conferred:

- MS in Nursing
- PhD in Nursing

Overview

The Master of Science degree program in Nursing is accredited by the Commission on Collegiate Nursing Education. The program is designed to prepare nurses for advanced nursing practice in the community and in institution-based settings. The community health framework in place since 1978 has been expanded to provide the basis for a variety of options for advanced practice nursing.

The program offers three clinical tracks: clinical nurse specialist, family nurse practitioner, and post nurse practitioner. An area of clinical specialization is selected by the student according to personal interests and career goals, and serves as the basis for a formal program of study submitted by the student and approved by the student's advisor on entering the program.

Study in the Master's program prepares students to participate in planning and implementing nursing services to meet the special needs of clients particularly in urban communities. Graduates are also prepared to participate in research. Graduates of the Master of Science program will be eligible to sit for a variety of certification examinations as approved by the Wisconsin Board of Nursing.

The PhD program in Nursing at the University of Wisconsin-Milwaukee was approved by the University of Wisconsin System Board of Regents on February 9, 1984, and prepares nurses as scholars to conduct independent and collaborative research, to develop and test theory relevant to nursing, and to improve the quality of care by expanding the body of nursing knowledge. Scholars will be prepared to serve the urban community and improve the general accessibility and acceptability of health care.

Specialization is achieved through an approved program of study and includes program elements of course work, dissertation, and direction of faculty advisors. This specialization is focused on a particular area of nursing practice and the social context within which it occurs.

The Center for Nursing Research and Evaluation, the Institute for Urban Health Partnerships, the Center for Cultural Diversity and Health, and the Nursing Learning Resource Center are among the resources of the College of Nursing.

Graduate Faculty

UWS Distinguished Professor

Lang, Norma, Ph.D., Marquette University

Professors

Dean-Baar, Susan, Ph.D., Loyola University, F.A.A.N.
Devine, Elizabeth, Ph.D., University of Illinois-Chicago, F.A.A.N.
Kovach, Christine, Ph.D., University of Rochester
Leske, Jane, Ph.D., University of Wisconsin-Milwaukee
Lundeen, Sally, Ph.D., University of Illinois-Chicago, F.A.A.N.
Marek, Karen, Ph.D., University of Wisconsin-Milwaukee
Morin, Karen, D.Sc, University of Alabama-Birmingham
Rodgers, Beth, Ph.D., University of Virginia
Sawin, Kathleen, D.N.S., Indiana University
Schiffman, Rachel, Ph.D., University of Connecticut
Selder, Florence E., Ph.D., University of Illinois-Chicago, F.A.A.N.
Stevens, Patricia, Ph.D., University of California-San Francisco, F.A.A.N.
Underwood, Sandra, Ph.D., Northwestern University, F.A.A.N.

Associate Professors

Anderko, Laura, Ph.D., University of Illinois-Chicago
Baisch, Mary Jo, Ph.D., University of Wisconsin-Milwaukee
Coenen, Amy, Ph.D., University of Wisconsin-Milwaukee, F.A.A.N.
Falco, Suzanne M., Ph.D., New York University
Fontana, Susan, Ph.D., University of Illinois-Chicago
Hewitt, Jeanne B., Ph.D., University of Illinois-Chicago
Hildebrandt, Eugenie, Ph.D., University of the Witwatersrand Medical School
Johnson, Teresa, Ph.D., University of Illinois-Chicago
Kunert, Mary Pat, Ph.D., Medical College of Wisconsin
Litwack, Kim, Ph.D., Kent State University
Ott, Carol, Ph.D., Marquette University
Plach, Sandra, Ph.D., University of Wisconsin-Milwaukee
Ryan, Polly, Ph.D., University of Wisconsin-Milwaukee
Snethen, Julia, Ph.D., University of Wisconsin-Milwaukee

Assistant Professors

Buseh, Aaron, Ph.D., University of Wisconsin-Milwaukee
Kim, Tae Youn, Ph.D., University of Pennsylvania
Mkandawire-Valhmu, Lucy, Ph.D., University of Wisconsin-Madison
Rice, Elizabeth, Ph.D., University of Wisconsin-Madison
Runquist, Jennifer, Ph.D., University of Arizona
Vanderboom, Catherine, Ph.D., Case Western Reserve University

Master of Science in Nursing

There are two entry options for the Master of Science in Nursing Program.

1. Traditional program for individuals with a bachelor's degree in nursing and a current Registered Nurse license
2. Direct Entry program for individuals with a degree in a field other than nursing and are not licensed as a Registered Nurse. This option includes an additional one year curriculum at the beginning of the program that leads to eligibility to sit for the NCLEX-RN examination.

Admission

The admission requirements of the master's program in Nursing are consistent with those requirements specified by the Graduate School of the University of Wisconsin-Milwaukee. In addition, students must also meet the following requirements for the College of Nursing:

Traditional Option

1. A bachelor's degree in Nursing from a professionally accredited program, with a minimum undergraduate grade point average of at least 2.75 (4.0 scale).
2. Completion with a grade of C or higher of an upper-level undergraduate course in statistics within the five years immediately preceding admission.
3. Current registration as a professional nurse in the State of Wisconsin.
4. Completion of the Graduate Record Examination (GRE) within the last five years. The master's program admission requirement of the GRE will be waived for students who have completed a master's degree.
5. Three (3) letters of recommendation for graduate study in nursing, two (2) of which are from persons most knowledgeable about the applicant's recent academic and work experiences. Personal interview with a faculty member may be requested.
6. Completion of an autobiographical sketch.

Direct Entry Option

1. A bachelor's degree, with a minimum undergraduate grade point average of at least 3.00 (4.0 scale).
2. Completion with a grade of B or higher within the five year immediately preceding admission course work in the following areas: upper-level

undergraduate course in statistics, anatomy and physiology, growth and development, microbiology, biochemistry, nutrition.

3. Completion of the Graduate Record Examination (GRE) within the last five years. The master's program admission requirement of the GRE will be waived for students who have completed a master's degree.
4. Three (3) letters of recommendation for graduate study in nursing, two (2) of which are from persons most knowledgeable about the applicant's recent academic and work experiences. Personal interview with a faculty member may be requested.
5. Completion of an autobiographical sketch and essay.

These data are used by the Admissions Subcommittee as indicators of academic potential. Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The student is assigned to an advisor at the time of admission.

Credits and Courses: Direct Entry Curriculum

Students admitted to the Direct Entry Option complete a one year full-time pre-licensure curriculum prior to beginning the advanced practice nursing masters program. Successful completion of all courses in the pre-licensure curriculum with a grade of B or better is required prior to beginning the advanced practice nursing curriculum. Attainment of a Registered Nurse license is required prior to beginning the advanced practice nursing practicum courses.

Prelicensure Curriculum Courses: 44 Credits

- **211** Health Assessment, 3cr.
- **205** Pharmacology, 3cr.
- **326** Nursing Science II: Concepts of Aging and Long Term Care, 3 cr.
- **327** Nursing Science III: Health Concepts-Women & Children, 4 cr.
- **328** Nursing Science IV: Concepts of Health Care of the Adult, 4 cr
- 6XX Nursing Science: Concepts of Community and Health Promotion, 3 cr.
- **653** Foundations in Pathophysiology for Nursing Practice, 4 cr.
- **680** Nursing and Society, 3 cr.
- **681** Professional Role in Health Care Systems I, 2cr.
- **682** Professional Role in Health Care Systems II, 2cr.
- **685** Clinical Reasoning, 5 cr.
- **686** Professional Nursing Practicum, 8 cr.

Credits and Courses: Advanced Practice Curriculum

The Master of Science program is offered to prepare Advanced Practice Nurses. This is accomplished through core courses required of all students (24 credits) and completion of requirements for one of three clinical tracks. The following tracks are available:

Graduate Core Courses: 12 Credits

- **735** Theoretical Foundations of Advanced Nursing Practice, 3 cr.
- **727** Epidemiology, 3 cr.
- **729** Health Care Systems and Advanced Practice, 3 cr.
- **725** Nursing Research and Knowledge Generation in Nursing, 3 cr.

Advanced Practice Core Courses: 12 Credits

- **753** Physiologic Basis of Advanced Nursing Practice, 3 cr.
- **707** Advanced Pharmacology: Application to Advanced Nursing Practice, 3 cr.
- **754** Comprehensive Assessment of Health: Implications for Clinical Decision-Making, 3 cr.
- **784** Advanced Nursing Practice Interventions, 3 cr.

Clinical Nurse Specialist Track (22 Credits)

Students selecting this track develop program of study focused on the planning, delivery, and evaluation of advanced practice nursing care to a specified population. Students complete 22 credits in the clinical track for a total of 46 program credits. Designated course work in the clinical specialty is completed under the direction of faculty experts and clinical preceptors. The specialty areas available to clinical nurse specialist students are: adult health nursing (acute and chronic), community health nursing, psychiatric / mental health nursing, maternal-child nursing, and nursing systems.

Clinical Support Courses: 9 Credits

Students in the Clinical Nurse Specialist Track select a minimum of 9 required credits in a substantive area to support clinical specialization. Electives may be selected in nursing or other related disciplines. Not more than one of the electives may be a U/G (Undergraduate/graduate) course for graduate credit.

Clinical Nurse Specialist Practica: 13 Credits

- **737** Clinical Nurse Specialist: Practicum I, 4 cr.
- **738** Clinical Nurse Specialist: Practicum II, 4 cr.
- **739** Clinical Nurse Specialist: Practicum III, 4 cr.
- **991** Research and Thesis, 1 cr.

RN to MS Option

The RN to MS Track is designed for RN students who are interested in completing both a BS and MS degree. Students in this option complete 12 credits of graduate core courses while enrolled in the BS in Nursing program designed for Registered Nurses. In the last semester of the BS program they apply for admission to the graduate program. In addition to the admission requirements described above students will be required to have completed the 12 credits of graduate core courses with a grade of B or better. Upon admission they complete the remaining 34 required credits in either the Clinical Nurse Specialist or Family Nurse Practitioner Tracks.

Family Nurse Practitioner Track (22 Credits)

Students selecting the Family Nurse Practitioner Track follow a program of study designed to prepare them for advanced nursing practice in primary care settings with families across the lifespan. Designated coursework in the specialty is completed under the direction of faculty experts and clinical preceptors. A three-semester sequence of theory and practicum courses total 22 clinical track credits for a total of 46 program credits.

Family Nurse Practitioner Theory Courses: 9 Credits

- **767** Family Nurse Practitioner Theory I, 3 cr.
- **768** Family Nurse Practitioner Theory II, 3 cr.
- **769** Family Nurse Practitioner Theory III, 3 cr.

Family Nurse Practitioner Practica Courses: 13 Credits

- **757** Family Nurse Practitioner Practicum I, 3 cr.
- **758** Family Nurse Practitioner Practicum II, 5 cr.
- **759** Family Nurse Practitioner Practicum III, 4 cr.
- **991** Research and Thesis, 1 cr.

Post Nurse Practitioner Track

The Post Nurse Practitioner Track is designed for nurse practitioners who have a bachelor's degree and preparation as a nurse practitioner at the certificate level and wish to pursue a master's degree. Students in this option will complete the 24 credits of the core courses, an experience portfolio, and 1 credit of Research

and Thesis for the required clinical project. This track is offered on weekends and during the summer. Special advising is required to establish eligibility and develop a program plan.

Credits and Courses: Total Program

46 credits for students who complete the Clinical Nurse Specialist Track; 46 credits for students who complete the Family Nurse Practitioner Track; and 25 credits for students who complete the Post Nurse Practitioner Track and 90 credits for students who complete the Direct Entry option.

Minimum Grade Requirement

For continuation in the program, in addition to general Graduate School requirements students must achieve a minimum grade of B in all required FNP and CNS practicum courses and a minimum grade of B- in all other required courses.

Thesis

Optional (as a 3 credit elective)

Comprehensive Clinical Project

The student will complete a final comprehensive clinical project.

Time Limit

Students in the Clinical Nurse Specialist Track or the Family Nurse Practitioner Track must complete all degree requirements within seven years of the first enrollment semester as a degree student. Students in the Post Nurse Practitioner Track must complete all degree requirements within five years of the first enrollment as a degree student.

Master of Science in Nursing/Master of Business Administration

The University of Wisconsin-Milwaukee College of Nursing and the Lubar School of Business have joined together to collaboratively offer a program designed to provide a combined nursing and business curriculum to strengthen the graduate's performance as a leader and manager in nursing and health care administration.

Admission

Students are admitted to both the University of Wisconsin-Milwaukee graduate programs in nursing and business administration. The admission requirements are consistent with those specified by the UWM Graduate School, College of Nursing and Lubar School of Business. Students may choose to complete either the GMAT or GRE and must have at least two years practice in a health care setting. Three letters of reference are required including one from a former faculty and one from a health care employer. Students must also complete foundational business courses either prior to admission to the program or during completion of the degree program (BusMgmt 700 Building Business Interfacing Skills; BusMgmt 701 Basic Quantitative Methods for Business, 2 cr*; BusMgmt 702 Accounting, Finance, and Economics, 3 cr; BusMgmt 703 Marketing, Operations, and Management, 3 cr.).

*Because completion of an undergraduate upper division statistics course is required prior to admission to the MS-Nursing/MBA program, students will be waived from BusMgmt 701.

Credit and Courses

Students accepted into the MS/MBA program complete the following courses

Nursing (25 cr)

- **725** Nursing Research and Knowledge Generation, 3cr
- **735** Theoretical Foundations of Advanced Nursing Practice, 3 cr
- **784** Advanced Nursing Practice Interventions, 3 cr
- **750** Evaluation of the Quality of Health Care, 3 cr
- **770** Nursing Administration, 3 cr
- **771** Nursing Administration Practicum, 3 cr
- **727** Epidemiology, 3 cr
- **729** Health Care Systems, 3 cr
- **991** Research and Thesis (Clinical Project), 1 cr

Business BUS MGMT (39 cr)

Core Courses

- **704** Accounting Analysis and Control, 3 cr
- **705** Corporate Finance, 3 cr
- **706** Managing in a Dynamic Environment, 3 cr
- **707** Information Technology for Competitive Advantage, 3 cr
- **708** Marketing Strategy: Concepts and Practice, 3 cr
- **709** Data Analysis for Management Applications, 3 cr
- **710** Economic Analysis for Managers, 3 cr
- **711** Competitive Operations Strategy, 3 cr
- **720** Strategic Management in Health Care Organizations OR **712** Strategic Management**, 3 cr

**BusMgmt 720 or Bus Mgmt 712 is the designated integrating course for the coordinated degree program.

Electives

6 credit hours of electives, 6 cr; 6 credit hours from the College of Nursing that will apply to both degrees

- **727** Epidemiology, 3 cr
- **729** Health Care Systems, 3 cr

Total Program

For the coordinated degree program, the MS in Nursing is a 25 credit hour degree program and the MBA is a 39 credit hour degree program. Students will complete 58 credit hours, 6 of these credit hours are used to meet requirements for both degrees. In addition, MBA foundation coursework (for those entering the program without previous equivalent coursework) consists of four courses - BusMgmt 700, BusMgmt 701, BusMgmt 702, and BusMgmt 703. A student not completing the requirements for the coordinated degree program would need to complete all requirements for the individual program - MS in Nursing or MBA - in order to receive a degree.

Comprehensive Clinical Project

The student will complete a comprehensive clinical project.

Time Limit

Students in the coordinated MS/MBA degree program must complete all degree requirements within seven years of the first enrollment semester as a degree student.

Post Master's Family Nurse Practitioner Certificate

The post master's family nurse practitioner certificate is designed for registered nurses that have already completed a master's degree in nursing and wish to pursue preparation as a family nurse practitioner.

Admission

The admission requirements of the post master's family nurse practitioner program are consistent with those requirements specified by the Graduate School of the University of Wisconsin-Milwaukee. In addition, students must also meet the following requirements for the College of Nursing:

1. A master's degree in Nursing from an accredited program.
2. Completion with a grade of B or better graduate level course in physiology, pharmacology, comprehensive assessment, and epidemiology. Evidence of prescriptive authority in the state of Wisconsin will be accepted in place of graduate pharmacology.
3. Current registration as a professional nurse in the state of Wisconsin.
4. Three (3) letters of recommendation, two (2) of which are from persons most knowledgeable about the applicant's recent academic and work experiences. Personal interviews with a faculty member may be requested.
5. Completion of an autobiographical sketch.

Credits and Courses

Designated coursework in the certificate program is completed under the direction of faculty experts and clinical preceptors. A three consecutive semester sequence of theory and practicum courses totally 21 credits is required for completion of the post master's family nurse practitioner certificate program. Students will need to maintain a 3.0 GPA and meet all other requirements for progression through the practicum courses.

Family Nurse Practitioner Theory Courses (9 credits)

- **767** Family Nurse Practitioner Theory I, 3 cr.
- **768** Family Nurse Practitioner Theory II, 3 cr.
- **769** Family Nurse Practitioner Theory III, 3 cr.

Family Nurse Practitioner Practica Courses (12 credits)

- **757** Family Nurse Practitioner Practicum I, 3 cr.
- **758** Family Nurse Practitioner Practicum II, 5 cr.
- **759** Family Nurse Practitioner Practicum III, 4 cr.

Minimum Grade Requirement

For continuation in the program, in addition to general Graduate School requirements students must achieve a minimum grade of B in all required FNP practicum courses and a minimum grade of B- in all other required courses.

Health Professional Education Certificate

The health professional education certificate is designed to provide health professionals with additional preparation in educational principles and theory to support them in their roles as educators of students and staff in the health professions as well as in the role of patient educator. This program is open to students simultaneously enrolled in a graduate degree program, as well as to health professionals who have completed a baccalaureate, master's or doctoral degree. The certificate program is a collaborative program between the College of Health Sciences and Schools of Nursing and Education, and is coordinated through the College of Nursing.

Admission

Applicants are admitted to the certificate program in one of three categories: post-baccalaureate, current student in a UWM graduate health profession program, or post-graduate student.

1. Post-baccalaureate students must have completed a bachelor's degree in a health profession discipline with a grade point average of 2.75 or above (4.0 scale) and not be currently enrolled in a graduate degree program at UWM.

2. The admission requirements of the health professional educational certificate for students enrolled in good standing in a UWM graduate health profession program are consistent with those requirements specified by the program.

3. Post-graduate students must have completed a graduate degree in a health profession or related discipline with a grade point average of 3.0 or above (4.0 scale).

Credits and Courses

The completion of 15 credit hours (5 courses) is required for the certificate program. All students are required to complete 2 core courses, Principles & Foundations of Adult Education (3 credits) and Practicum & Seminar in Health Professional Education (3 credits). In addition students will complete 3 credits in the area of curriculum/program planning and evaluation, 3 credits in teaching/instructional strategies, and 3 credit hours in an elective area. A current listing of courses that meet these requirements can be obtained from the College of Health Sciences or the College of Nursing. Students will need to maintain a 3.0 GPA and meet all other requirements of the Graduate School for continuation in the program. The Practicum and Seminar in Health Professional Education is the last course taken in the certificate program.

Up to six credits of graduate courses taken at UWM or another institution prior to admission to the certificate program will be allowed to transfer to meet requirements for the certificate. Such courses must meet Graduate School requirements for transfer credit.

Time Limit

The student must complete all certificate course work within three years of initial enrollment in the certificate program.

Graduate Certificate in Public Health

The graduate certificate in public health is designed to provide health professionals with additional preparation in public health principles to support them in their roles in the areas of health programming and evaluation, health education, engineering, policy analysis, administration, research, and other areas related to the field of public health. It is a 15-credit program with courses in each of the five recognized core disciplines of public health: epidemiology, biostatistics, health administration and policy, social and behavioral health, and environmental health.

This program is open to post-baccalaureate students, to those simultaneously enrolled in a UWM graduate health-related degree program, as well as to health professionals who have completed a baccalaureate, master's or doctoral degree. The certificate program is a collaborative program between the College of Health Sciences and College of Nursing, and is coordinated through the College of Nursing. Courses are offered from a variety of disciplines campus-wide, including social welfare, psychology, nursing, and health sciences.

Admission

Applicants are admitted to the certificate program in one of three categories:

- Post-baccalaureate student who has completed a bachelor's degree in a health profession discipline or related discipline with a grade point average of 2.75 or above (4.0 scale) and is not currently enrolled in a graduate degree program at UWM.
- Current student in a UWM graduate health profession program. Admission requirements are consistent with those specified in the UWM Graduate School and the graduate health profession program.
- Post-graduate student who has completed a graduate degree in a health profession or related discipline with a grade point average of 3.0 or above (4.0 scale).

Those not already admitted to a UWM graduate degree program must complete a UW System online admission application and have an official undergraduate transcript sent to the Graduate School.

Credits and Courses

The completion of 15 credit hours is required for the certificate program. All students are required to complete three core courses:

- Biometry BIOSCI 465 (3 credits)
- Epidemiology NURS 727 (3 credits)
- Environmental Health CLS 590 (3 credits)

In addition, students will complete courses in Social/Behavioral Health, and in Health Administration & Policy. A current listing of courses that meet these requirements can be obtained from the College of Nursing or the office of Public Health Planning (see www.publichealth.uwm.edu). Students will need to maintain a 3.0 GPA and meet all other standard requirements for UWM graduate students for continuation in the program. Other courses may be included upon approval of the Program Director.

Time Limit

The student must complete all certificate course work within three years of initial enrollment in the certificate program.

Doctor of Philosophy in Nursing

Admission

An applicant must meet Graduate School requirements plus the following College of Nursing requirements to be considered for admission to the doctoral program in Nursing:

1. A bachelor's degree with a major in nursing from a professionally accredited College of Nursing.
2. A cumulative grade point average of 3.2 on a 4.0 scale for all previous coursework.
3. Submission of scores on the General Test portion of the Graduate Record Examination; test taken within last five years.
4. Completion of a graduate level statistics course with a grade of B or better within the last 5 years.
5. Current registration in nursing in one of the jurisdictions of the United States or in another country.
6. A written statement prepared by the applicant describing previous professional experience, personal career goals, research interests motivation for doctoral study, and educational objectives to be accomplished in the program.
7. Recommendations from at least three persons who have known the applicant in a professional capacity.
8. Two examples of original work that demonstrate the applicant's academic potential.
9. An interview may be required of applicants to the doctoral program.

Reapplication

A student who receives the master's degree must formally reapply for admission to the Graduate School before continuing studies toward the PhD.

Major Professor as Advisor

The student is expected to select a major professor to supervise the student's studies as specified in the Graduate School regulations. Incoming students are assigned an initial program advisor. Before completion of two semesters of full-time study or the equivalent in earned credits, the student selects a major professor, whose appointment is subject to the approval of the College of Nursing Graduate Admission and Progression Committee. The student, in consultation with the major professor, establishes a formal plan of study that is submitted to the College of Nursing Graduate Admission and Progression Committee for approval. For subsequent changes, the student must file a revised plan of study for approval by this committee.

Course of Study

Minimum degree requirements are 61 graduate credits beyond the bachelor's degree, at least 31 of which must be earned in residence at the University of Wisconsin-Milwaukee. The College of Nursing requires a minimum of 49 graduate credits beyond the master's degree in nursing or master's graduate core courses.

Nursing Core (9 credits)

- **801** Foundations of Nursing Inquiry, 3 cr.
- **802** The Science of Nursing, 3 cr.
- **803** Nursing Science and Public Policy, 3 cr.

Specialty Core (15 credits; minimum of 6 credits must be taken outside the College of Nursing)

- **820** Analysis of Nursing Phenomenon, 3 cr.

Electives, 12 cr.

Research Core (22 credits)

- **881** Measurement for Nursing Research, 2 cr.
- **882** Qualitative Approaches to Nursing Research, 3 cr.
- **883** Quantitative Approaches to Nursing Research, 3 cr.
- **890** Issues in Nursing Scholarship, 3 cr.
- **899** Practicum in Nursing research, 5 cr.
- Multivariate Statistics, 3 cr.
- Advanced Research Methodology, 3cr.

Dissertation (minimum 3 credits)

- **997** Doctoral Dissertation, 3 cr.

Specialization is achieved through an approved program of study and includes program elements of minor field course work, supervised research experiences, dissertation, and the direction of faculty advisors. The student specializes in a particular area of nursing practice and the social context within which it occurs. The plan for this is developed in consultation with the major professor. Minimum requirements for all formal coursework other than dissertation research can be expected to take at least two academic years of study.

Students admitted without a master's degree in nursing must complete 12 credits of master's program graduate core courses before beginning doctoral level nursing courses. The graduate core courses that must be completed are:

- **725** Nursing Research and Knowledge Generation, 3 cr.
- **727** Epidemiology, 3 cr.
- **729** Health Care Systems and Advanced Practice, 3 cr.
- **735** Theoretical Foundations of Advanced Nursing Practice, 3 cr.

Post baccalaureate students admitted to the doctoral program will not be granted a master's degree in nursing unless all requirements for the master's degree in nursing are met.

Minimum Grade Requirement

For the continuation in the program, in addition to general Graduate School requirements students must achieve a minimum grade of B- in all required courses.

Minor Field

The student must complete a minor of 8 to 12 credits, 6 or more of these credits to be earned from courses in departments outside the College of Nursing. Such courses are selected for their relevance to the student's area of specialization, and are to be taken in the substantive content of the selected minor field.

Language Requirement

Foreign language competency may be required at the option of the student's major professor.

Residence

The student must meet minimum Graduate School residence requirements.

Doctoral Preliminary Examination

The student must pass a doctoral preliminary examination to qualify for formal admission to candidacy for degree. The doctoral examination is comprised of a written and an oral component, taken in that sequence, with each component requiring a passing grade for successful completion. The examination is an integrative experience that is designed to validate the student's mastery of the content of the doctoral program curriculum and readiness to conduct independent research within the student's area of specialization as identified in the formal plan of study.

Dissertation

The candidate must write a dissertation, which demonstrates ability to formulate a research topic and pursue independent and original investigation under the direction of the major professor.

Dissertation Defense

The candidate must, as the final step toward the degree, pass an oral examination in defense of the dissertation. A candidate who does not pass this examination may apply for reexamination within one year from the initial examination date. This reexamination may occur only one time. A candidate who does not pass this examination within program time limits may be required to undergo another comprehensive preliminary examination and readmitted to the program and/or candidacy.

Time Limit

The student must complete all requirements for the degree within seven years from the date of

initial enrollment in the program. The student must complete all requirements for the degree within four years from the time of attainment of dissertator status.

For additional information on the PhD, see the Graduate School Doctoral Requirements page.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM-sponsored program before course work levels, content, and credits are determined and/or in especially prepared program course work. May be retaken with change in topic; max of 9 cr for grad students. Prereq: acceptance for Study Abroad Prog.

630 Occupational Health and Safety. 3 cr. U/G.
An interdisciplinary course designed to build a framework for assessment of factors relating to the promotion of health and safety for employees. Prereq: jr st.

650 Clinical Oncology Nursing. 3 cr. U/G.
Etiology, epidemiology, pathophysiology, treatment modalities and nursing management of cancer patients. Prereq: Nurs 334(P) or admis to Collaborative Degree Prog or cons instr.

653 Foundations in Pathophysiology for Nursing Practice. 4 cr. U/G.
Mechanisms, mainfestations, diagnosis and treatment of disease states for selected body systems as a foundation for nursing management of selected conditions. Prereq: Admis to Nursing Direct Entry Master's Program.

661 Current Legal Problems in Nursing. 2 cr. U/G.
Consideration of the legal rights and responsibilities of the professional nurse. Discussion of recent cases, contracts, recent legislation, licensure problems, torts, negligence and criminal cases. Prereq: sr st or R.N.

680 Nursing and Society. 3 cr. U/G.
Introduction to the nursing profession, its multifaceted role in society, and the abilities needed for professional nursing practice. Prereq: Admis to Nursing Direct Entry Master's Program.

681 Professional Role in Health Care Systems I. 2 cr. U/G.
Exploration and analysis of nursing leadership, care management, models of care, and fiscal and human resource allocation and management concepts in clinical practice. Prereq: Nurs 680(P).

682 Professional Role in Health Care Systems II. 2 cr. U/G.
Exploration and analysis of organizational environments, communication, and quality initiatives within interdisciplinary health care systems. Prereq: Nurs 681(P).

685 Clinical Reasoning. 5 cr. U/G.
Development and refinement of, and practice with, the clinical reasoning skills required for professional nursing practice. Prereq: Nurs 205(P), 211(P), 328(P), 653(P), 680(P).

686 Professional Nursing Practicum. 8 cr. U/G.
Intensive practicum experience providing nursing care to members of diverse populations across the health care continuum. Prereq: Nurs 326(P), 327(P), 681(P), 685(P).

687 Professional Nursing Practice Internship. 1 cr. U/G.
Intensive clinical practice experience in a selected area of nursing. Prereq: Nurs 686

700 Health Development of the Emerging Family. 3 cr. G.
Advanced examination of cognitive, affective, and behavioral principles, problems of conceptualization, and empirical evidence related to health of the emerging urban family. Prereq: grad st or cons instr.

701 Women's Health in the Workplace. 3 cr. G.
Work-health interactions and their impact on working women. Health promoting strategies are devised for intervention at the personal, organizational, and societal levels. Prereq: grad st or cons instr.

705 Instructional Strategies for Patient Education. 3 cr. G.
Study of instructional strategies applicable in patient education; opportunity to select, develop and evaluate the effectiveness of particular strategies in individual and/or group situations. Prereq: grad st or cons instr.

707 Advanced Pharmacology: Application to Advanced Nursing Practice. 3 cr. G.
Advanced knowledge related to use of pharmacotherapeutics in management of common health problems, nursing prescriptive authority, and development and use of clinical practice guidelines. Prereq: grad st; admis to Nursing degree program; Nurs 753(P) or cons instr.

710 Patient Care Systems. 3 cr. G.
Seminar and individual student projects concerning decision making processes involved in determining functions, procedures, environment and organizational support required for systems within patient care settings. Prereq: grad st or cons instr.

715 Health Attitudes and Practices. 3 cr. G.
Study of the theory and development of health attitudes and practices as they affect and are related to urban health and the delivery of health services. Prereq: grad st or cons instr.

717 Community Health Nursing and Health Promotion. 3 cr. G.
Nursing science related to the health promotion of individuals, aggregates and special populations in the community; roles of community health nurses. Prereq: grad st; Nurs 727(P)

720 Biostatistics and Applications for Nursing Practice. 2 cr. G.
Introduction to biostatistics with special emphasis on the identification, description, application, and interpretation of clinical data about nursing phenomena and nursing practice. Prereq: grad st or cons instr.

725 Nursing Research and Knowledge Generation. 3 cr. G.
Introduction to research and knowledge generation in nursing including types of research, methods of research, preparation of proposals, data analysis, and utilization of research. Prereq: grad st; admis to Nursing degree program or cons instr.

727 Epidemiology. 3 cr. G.
Study of the distribution and determinants of health and disease in populations including related methods and application. Prereq: grad st; admis to UWM graduate degree program or cons instr.

729 Health Care Systems and Advanced Practice. 3 cr. G.
Study of interrelationships in communities and their influence on health. Focus on advanced nursing practice, primary health care, and payment for health care across settings. Prereq: grad st; admis to Nursing degree program or cons instr.

730 Theoretical Foundations in Community Health. 3 cr. G.
Study of the dynamic interrelationships of a number of societal systems: economic, political, education, religious, welfare and health. Prereq: grad st or cons instr.

731 Practicum and Seminar in Health Professional Education. 3 cr. G.
Observation, participation, and practice in teaching in a health professional educational program. Prereq: grad st; cons instr

732 Theoretical Foundations in Family Nursing. 3 cr. G.
Dynamic interrelationships of personal systems: physiological, psychological & social as related to extended family units. Theory & laboratory study of family dimensions of community health nursing. Prereq: grad st or cons instr.

735 Theoretical Foundations of Advanced Nursing Practice. 3 cr. G.
Concepts, frameworks, and theories for nursing practice, role development, and nursing service delivery for advanced practice with individuals and aggregates. Prereq: grad st; admis to Nursing degree program or cons instr.

737 Clinical Nurse Specialist: Practicum I. 4 cr. G.
Using a theoretical and research base, the student explores, discusses, and enacts the advanced clinical nursing practice role in a chosen area of practice. Prereq: grad st; Nurs 725(C), 754(C).

738 Clinical Nurse Specialist: Practicum II. 4 cr. G.
Continuation of practicum I: second semester advanced clinical nursing

practice. Prereq: grad st; Nurs 707(C); Nurs 737(P); Nurs 784(C).

739 Clinical Nurse Specialist: Practicum III. 4 cr. G.

Continuation of practicum II: third semester advanced clinical nursing practice. Prereq: Nurs 738(P).

740 Seminar in Community Health Nursing: (Subtitled). 4 cr. G.

Recent developments, research and current knowledge in community health nursing. Focus on specific clinical areas of practice. Topics and any additional prerequisites announced in schedule of classes each time the course is offered. May be repeated with change in topic to max of 8 cr. Prereq: grad st or cons instr.

742 Theoretical Foundations in Maternity Nursing. 3 cr. G.

Advanced study of psychological, physiological and cultural factors affecting the childbearing woman, her family, and extended family. Theory and laboratory study focuses on nurse-patient interactions and nursing intervention. Prereq: grad st or cons instr.

745 Community Mental Health Nursing. 4 cr. G.

Concepts of community mental health nursing. Nature and scope of preventive treatment and rehabilitative components; roles and relationships in provision of services. Field experience arranged. Prereq: grad st or cons instr.

747 Theoretical Foundations of Nursing in Chronic Disability. 3 cr. G.

Reports and discussions of recent research and current problems in nursing in chronic disability. Clinical experiences with patient interactions in chronic disabilities. Prereq: grad st or cons instr.

748 Thanatology: Theories and Issues for the Practitioner. 3 cr. G.

Theories, issues, and research related to death, dying and bereavement. Implications for professional practice. Prereq: grad st.

750 Evaluation of the Quality of Health Care. 3 cr. G.

Examination, development and utilization of frameworks and tools for implementation and evaluation of programs of health care quality management for groups of patients. Prereq: grad st or cons instr.

751 Teaching in Practice Disciplines. 3 cr. G.

Issues, theories, and strategies used for teaching in disciplines that require clinical learning for the development of needed critical thinking and performance abilities. Prereq: grad st; cons instr

752 Curriculum Development in Nursing Education. 3 cr. G.

Principles and techniques of nursing curriculum design, development, implementation and evaluation. Prereq: grad st

753 Physiologic Basis of Advanced Nursing Practice. 3 cr. G.

Human physiologic responses to actual and potential health problems, methods of measurement, developmental and environmental influences, and implications for advance nursing practice. Prereq: grad st ; admis to Nursing degree program or cons instr.

754 Comprehensive Assessment of Health: Implications for Clinical Decision-Making. 3 cr. G.

Comprehensive assessment of health in individuals and aggregates, including measurement of health status, appraisal of needs, analysis of environmental contexts, and development of diagnostic strategies. Prereq: grad st; admis to Nursing degree program; Nurs 753(P); or cons instr.

755 Grounded Theory and Concept Analysis--Two Qualitative Approaches in Depth. 3 cr. G.

In-depth exploration of two diverse qualitative research approaches, including the philosophical foundations and experience in application of the methods to nursing problems. Prereq: grad st; Nurs 725(P).

756 Issues in the Health Care of Older Adults. 3 cr. G.

Current knowledge, research, and issues in the design and delivery of health services for older adults. Prereq: grad st or cons instr.

757 Family Nurse Practitioner Practicum I. 3 cr. G.

First of a three-practicum sequence designed to provide practice experience caring for individuals, families, and populations in primary care settings. Prereq: grad st; Nurs 707(P); Nurs 725(P); Nurs 727(P); Nurs 729(P); Nurs 735(P); Nurs 754(P); Nurs 784(P).

758 Family Nurse Practitioner Practicum II. 5 cr. G.

Second of a three-practicum sequence focused on family nurse practitioner practice based on understanding the centrality of the patient-provider relationship. Prereq: Nurs 757(P); 767(P); & 725(C).

759 Family Nurse Practitioner Practicum III. 4 cr. G.

This is the last of a three-sequence practicum. Emphasis is on health policy, ethical, and professional issues that influence clinical decision-making in primary care. Prereq: grad st; Nurs 758(P); 768(P).

760 Processes of Aging. 3 cr. G.

An overview of the processes of aging including biological, psychological, and sociological perspectives. Emphasis on theories of development, gerontological research findings, and health services applications. Prereq: grad st or cons instr.

762 Family Theory and Intervention Strategies for Advanced Nursing Practice. 3 cr. G.

Cognitive, affective, and behavioral principles related to the functioning of the family and its members. Emphasis on therapeutic interventions used in advanced nursing practice. Prereq: grad st or cons instr.

763 Issues in Women's Health and Development. 2-3 cr. G.

Current physical, mental health, and developmental issues affecting women. Examination of the role of gender in health care research and clinical practice. Prereq: grad st or cons instr.

764 Changing Health Behaviors. 3 cr. G.

Enhancement of knowledge related to the process of behavioral change, models of change, factors that affect change behavior, and issues related to measuring change. Prereq: grad st or cons instr.

765 Strtgs for Nurses Effctng Chnge in Health Care/Health Related Pltcl Systms. 3 cr. G.

Theory and process of health care/health related political systems with application of political strategies, including the creation of new systems, for influencing existing systems. Prereq: grad st or cons instr.

767 Family Nurse Practitioner Theory I. 3 cr. G.

Introductory course designed to prepare family nurse practitioners to deliver health care to individuals, families, and populations Prereq: grad st; Nurs 707(P); Nurs 725(P); Nurs 727(P); Nurs 729(P); Nurs 735(P); Nurs 754(P); Nurs 784(P).

768 Family Nurse Practitioner Theory II. 3 cr. G.

Second of a three-course sequence focused on the delivery of primary care services within a relationship-centered care framework. Prereq: Nurs 757(P); 767(P); & 725(C).

769 Family Nurse Practitioner Theory III. 3 cr. G.

Last of a three-sequence course focused on health policy and professional issues that affect the delivery of primary care by family nurse practitioners. Prereq: Nurs 758(P); 768(P).

770 Nursing Administration. 3 cr. G.

Relevant topics grounded in research and theory that are related to professional development of nursing leadership and management roles in health care organizations. Prereq: grad st or cons instr.

771 Nursing Administration Practicum. 3 cr. G.

Applying theory and research, the student will explore, discuss, and actively participate in an advanced administration practice role in a healthcare organization. Prereq: grad st or cons instr.

774 Trauma Counseling I: Theory and Research. 3 cr. G.

Seminar examining impact of trauma experience on individuals, groups and communities following a catastrophic event. Explores traumatic events, mental injuries and impact on memory, learning, physical health and dysfunctional behavior. Nurs 774, OccThpy 774, and Soc Wrk 774 are jointly offered; they count as repeats of one another. Prereq: grad st

775 Trauma Counseling II: Diagnosis and Treatment. 3 cr. G.
Seminar on diagnosis and assessment instruments as well as intervention and therapeutic techniques used to address trauma issues in counseling acute and chronic traumatized clients. Nurs 775, OccThpy 775, and Soc Wrk 775 are jointly offered; they count as repeats of one another. Prereq: grad st; Nurs 774, OccThpy 774 or Soc Wrk 774, or cons instr

779 Special Topics Seminar: (Subtitled). 1-5 cr. G.
Specific topic and any additional prerequisites announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st or cons instr.

780 Study Abroad: (Subtitled). 1-9 cr. G.
Designed to enroll graduate students in UWM-sponsored program before content and credits are determined and/or in especially prepared program course work. May be taken w/ chg in topic to 9 cr max. Prereq: Acceptance for Study Abroad Program.

784 Advanced Nursing Practice Interventions. 3 cr. G.
Advanced knowledge and skills for developing, implementing, and evaluating nursing interventions for common nursing phenomena with individuals and aggregates. Prereq: grad st; admis to Nursing degree program or cons instr.

786 Applied Biostatistics in Ergonomics. 3 cr. G.
Statistical methods used in ergonomic studies to analyze, summarize, and report measurements and data. 2 hr lec & 2 hr lab/week. Jointly offered with & counts as repeat of OccThpy 786 & Ind Eng 786. Prereq: grad st; Ind Eng 580(P); a course in statistics or cons instr.

787 Issues in Ergonomics: Epidemiology. 1 cr. G.
Concepts in epidemiological studies employed to study risk factors in ergonomic research. Design considerations, strengths and weaknesses of different types of studies. Jointly offered with & counts as repeat of OccThpy 787 & Ind Eng 787. Prereq: grad st, Ind Eng 580, a course in statistics or cons instr.

788 Legal Issues and Regulatory Agencies in Ergonomics. 1 cr. G.
Understanding of ergonomic regulations, regulatory sets, and agencies' and workers' compensations laws. Jointly offered with & counts as repeat of OccThpy 788 & Ind Eng 788. Prereq: grad st; Ind Eng 580(P); a course in statistics or cons instr.

790 Design Project. 2-3 cr. G.
Integration and application of concepts learned in other ergonomic courses to analyze and abate ergonomic hazards in a scientific manner. Jointly offered with & counts as repeat of OccThpy 790 & Ind Eng 790. Prereq: grad st; Ind Eng 780(P), 783(P), 786(P), 788(P), or cons instr.

796 Seminar in Nursing Research. 2 cr. G.
Dialogue preparatory to conducting research or project study with emphasis on problem delineation, methodological process and organization of study report. Prereq: grad st; Nurs 725(FndNurs 725)(P) or cons instr.

797 Independent Study for Graduate Students. 1-6 cr. G.
Opportunity for students to pursue study in a subject area of special need or interest in community health nursing under guidance of graduate faculty. Prereq: grad st; cons instr.

801 Foundations of Nursing Inquiry. 3 cr. G.
Study of historical evolution of contemporary nursing science in terms of important philosophical and empirical antecedents. Prereq: admis to doctoral prog in Nursing or cons instr.

802 The Science of Nursing. 3 cr. G.
Study of nursing science through the exploration of the interrelationships among the theory, research, and practice of nursing. Prereq: admis to doctoral prog in nursing or cons instr; Nurs 801(NP).

803 Health Policy. 3 cr. G.
Explores the roles and accountability of health care providers and scientists in responding to the health and social needs of the public and shaping of public policy. Prereq: admis to doctoral prog or cons instr

820 Analysis of Nursing Phenomena. 3 cr. G.
Exploration of selected phenomena relevant to nursing through the evaluation and synthesis of scientific knowledge. Prereq: Admis to doctoral prog in Nursing; Nurs 802(P)

821 Analysis of Nursing Phenomena II. 2 cr. G.
Synthesis, application, and evaluation of theories and technologies related to selected phenomena relevant to nursing science in terms of specific patient population characteristics. Prereq: Nurs 820(P).

879 Special Topics in Nursing Research: (Subtitled). 1-3 cr. G.
Intensive study of selected research methodologies used to investigate nursing phenomena; topics vary by sections. May be repeated with change of topic to max of 9 cr. Prereq: admis to doctoral prog in nursing or cons instr.

881 Measurement for Nursing Research. 2 cr. G.
Study of theories of measurement and scaling, properties of research instruments, design and testing of instruments for nursing research. Prereq: admis to doctoral prog in nursing or cons instr.

882 Qualitative Approaches to Nursing Research. 3 cr. G.
Diverse qualitative design and analysis strategies used in the study of nursing phenomena. Emphasis will be to critique existing research and to plan future research. Prereq: admis to doctoral prog in nursing or cons instr.

883 Quantitative Approaches to Nursing Research. 3 cr. G.
Major quantitative designs and data management/analysis strategies used in clinical nursing research. Emphasis will be to critique existing research and to plan future research. Prereq: admis to doctoral prog in Nursing or cons instr.

884 Computer Applications for Qualitative Analysis. 1 cr. G.
Types, uses, and implications of computer applications for qualitative data analysis; includes in-depth experience with a selected program. Prereq: Nurs 882 (P), or Ad Ldsp 729 (P), or Urb Std 979 (P), or Educ 881 (P); or cons instr.

885 Advanced Quantitative Methods in Nursing. 3 cr. G.
In depth study of quantitative research methods with an emphasis on decision making for intervention studies and research with large data sets, advanced analytic strategies, communicating and interpreting results. Prereq: grad st; Nurs 883(P), Nurs 881(P), Multivariate Statistics(P) or cons instr.

886 Advanced Qualitative Methods in Nursing. 3 cr. G.
Enable student to acquire the advanced knowledge and skills needed to design and implement studies best suited to qualitative modes of investigation. Prereq: grad st; Nurs 882(P) or cons instr.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee assessed for 1 cr. Prereq: grad st; cons School of Nursing advisor.

890 Issues in Nursing Scholarship. 3 cr. G.
Examination of issues and methods common across qualitative and quantitative clinical nursing research as well as issues and methods inherent when approaches are combined. Prereq: grad st

897 Independent Study for Doctoral Students. 1-6 cr. G.
Opportunity for the student to pursue study in a subject area of special need or interest under the guidance of graduate faculty. Prereq: doctoral student status; cons instr.

899 Practicum in Nursing Research. 1-6 cr. G.
Mastery of research skills and techniques through participation in faculty research. May be repeated to a total of 6 cr. Prereq: admis to doctoral prog in nursing or cons instr.

991 Research and Thesis. 1-3 cr. G.
Independent research and thesis writing under the supervision of member of graduate faculty. May be retaken to max of 3 cr. Prereq: grad st; cons advisor UWM School of Nursing.

997 Doctoral Dissertation. 1-3 cr. G.
- May be repeated. Prereq: grad st; admis to candidacy for the PhD; cons advisor.

OCCUPATIONAL THERAPY

- Phone: (414) 229-4713
- E-mail: stoffelv@uwm.edu

School/College: College of Health Sciences

Degrees Conferred:

- MS in Occupational Therapy

Overview

The Department of Occupational Therapy offers a Master of Science degree program in Occupational Therapy. There are two tracks: a Professional-Entry Track and a Post-Professional Track. Students in both tracks will receive graduate instruction and research for occupational therapists and may select a thesis option (Option A) or a non-thesis project option (Option B) in pursuing this degree program. Professional-Entry Track students will also be offered a comprehensive examination option (Option C) for the capstone requirement.

Professional-Entry Track

Students wishing to pursue a career as an occupational therapist will select the Professional-Entry Track, which is a BS/MS program. Students with bachelor's degrees in other areas are welcome and encouraged to contact advising for credit evaluation. Students can complete the undergraduate portion of the Occupational Therapy Professional Program either as Bachelor of Science in Occupational Studies candidates or, for applicants with a previous bachelor's degree, as special students.

Students interested in the Professional-Entry Track should first contact the College of Health Sciences Advising Office, Occupational Therapy Professional Program, (414) 229-6448.

Post-Professional Track

Students who are occupational therapists interested in advanced study in clinical practice, preparation for an academic career, or development of administrative skills will select the Post-Professional Track.

Graduate Faculty

Professors

Haertlein Sells, Carol Leonardelli, Ph.D., Marquette University
Johnston, Mark, Ph.D., Claremont University
King, Phyllis, Ph.D., University of Wisconsin-Milwaukee
Smith, Roger O., Ph.D., University of Wisconsin-Madison

Associate Professors

King, Theodore I., Ph.D., Michigan State University
Stoffel, Virginia, Ph.D., Cardinal Stritch University, Chair

Assistant Professors

Barnekow, Kris, Ph.D., University of Wisconsin-Madison
Rowntree Darragh, Amy, Ph.D., Colorado State University
Sindhu, Bhagwant, Ph.D., University of Florida

Master of Science in Occupational Therapy

Admission

Applicants must meet Graduate School requirements. Students may enroll at the beginning of the spring, summer, or fall semesters, either on a full-time or part-time basis.

Applicants may be admitted to regular status if their cumulative grade point average is the equivalent of a 2.75 or above (scale of 4.0). Students with cumulative grade point averages between a 2.5 and 2.75 may be considered for admission on a probationary basis by presenting substantial evidence of ability to succeed in graduate level work. Probationary status is removed after successful completion of the first 9 graduate credits if a grade point average of 3.0 or above is achieved.

Professional-Entry Track

Applicants to the Professional-Entry Track will have completed all undergraduate requirements of the University of Wisconsin - Milwaukee Professional-Entry Occupational Therapy curriculum (or equivalent) and may apply to enter the M.S. in O.T. in their final undergraduate semester.

Post-Professional Track

Applicants to the Post-Professional Track must have graduated from a World Federation of Occupational Therapy member school or equivalent to be considered for admission to the program.

Admission Process

All applicants must apply to the Graduate School using the UW System admission application, which includes the reasons for graduate study statement; provide 2 official transcripts from each school attended; and submit the appropriate application/processing fee.

In addition, the following materials should be sent to the Occupational Therapy Graduate Coordinator:

1. Three letters of reference, preferably from academic and/or clinical sources (These are waived for current UWM-OT BS/special students).
2. A current curriculum vitae/resume (a summary of your education, employment, continuing education, professional activities and membership, etc.).
3. A writing sample. This writing sample may be a paper submitted in a college course, a manuscript submitted for publication, a brochure/description of a clinical program, or another form of written material authored by the applicant within the past five years.

Applications for the Master of Science in Occupational Therapy are handled on a rolling review process with the following dates recommended for submission of all application materials:

- February 1 for Summer term (December 1 if international)
- April 1 for Fall term (March 1 if international)
- October 1 for UWinterim/Spring term (July 1 if international)

Later applications will be processed; however, the response time will be delayed and registration for classes may be affected. Those also applying for UWM Graduate School or AOP Fellowships shall have all application materials submitted by the first week in January for Fall admission.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The Graduate Coordinator may serve as the temporary advisor to incoming students.

Credits and Courses

The minimum degree requirement for the Master of Science in Occupational Therapy program is 36 graduate credits for students in the Professional-Entry Track and 30 graduate credits for students in the Post-Professional Track.

Professional-Entry Track

Students must complete 21 graduate credits of core courses:

- OccThpy 701 Advanced Application of Instrumentation Theory in Health Care (3cr.)
- OccThpy 720 Advanced Application of Occupational Therapy Theory (3 cr.)
- OccThpy 510 Occupational Therapy Field Service I (6 cr.)
- OccThpy 515 Occupational Therapy Field Service II (6 cr.)
- A graduate level research emphasis course approved by the major professor (3 cr.)

Depending on the Option selected (A, B, or C), students either complete 9 or 12 total elective

credits as approved by the major professor; 6 must be in OT, 3-6 can be in OT or other UWM graduate department offerings.

Post-Professional Track

Students must complete 12 credits of core courses (3 graduate credits each):

- OccThpy 610 Advances in Occupational Science
- OccThpy 701 Advanced Application of Instrumentation Theory in Health Care
- OccThpy 720 Advanced Application of Occupational Therapy Theory
- A graduate level research emphasis course approved by the major professor

Depending on the Option selected (A or B), students either complete 12 or 15 total elective credits as approved by the major professor; 6 must be in OT if choosing option A and 9 must be in OT if choosing option B.

Capstone Options

Capstone A: Thesis

Students prepare a research thesis which will earn 6 credits. Each student is responsible for identifying a major professor before completing 12 graduate credits. The thesis committee should consist of a minimum of three members: the major professor (an O.T. program graduate faculty member), a UWM graduate faculty member, and one other member (UWM faculty/academic staff or community professional). Two members must be OT department faculty or academic staff. The major professor approves selection of committee members and a program of study designed to lead the student into the thesis research area. The thesis research topic will be identified by the student in concert with the thesis committee. The thesis must be written in compliance with the OT Program and Graduate School formats.

The student must pass a comprehensive oral examination in defense of the completed thesis. The oral examination committee will be the thesis committee.

Capstone B: Project

Students prepare a project which will earn 3 credits. Each student is responsible for identifying a major professor before completing 12 graduate credits. The project committee should consist of a minimum of two members: the major professor (an O.T. program graduate faculty member) and one other member (UWM OT department faculty or academic staff). The project committee may include a community professional as an optional third committee member. The topic will be identified by the student in collaboration with the major professor. The major professor approves selection of committee members and a program of study which supports the project area. The project must be written in compliance with OT Program format requirements.

The student must pass a comprehensive oral examination in defense of the completed project. The oral examination committee will be the project committee.

Capstone C: Comprehensive Examination (Option for Professional-Entry students only)

Students will successfully pass OCCTHPY 810 Critical Evaluation of Theory, Research, and Practice (G, 3 cr.), which prepares them to take the comprehensive examination in the Master of Science in Occupational Therapy degree program. The written comprehensive examination may include an oral portion (to be determined by the course instructor).

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Certificate in Assistive Technology and Accessible Design

The Certificate in Assistive Technology and Accessible Design is an interdisciplinary program designed to meet the demand for assistive technology and accessible design specialists. The College of Health Science's Departments of Occupational Therapy and Communication Sciences Disorders along with the School of Education's Department of Exceptional Education collaborate on the course offerings and management. The certificate follows a model of prerequisite disability and technology basic knowledge, survey of the fields, assessment, intervention and leadership. Completion of the certificate will help prepare the students to sit for State and National certification examinations as Assistive Technology Specialists, Rehabilitation Engineering Technologist and Low Vision Specialist.

Application and Admission

Students interested in this certificate should contact one of the three sponsoring programs before enrolling in any certificate courses. Admission to the certificate requires evidence of a basic knowledge of disability and computer applications, and an undergraduate GPA of at least 2.75 or a graduate GPA of at least 3.0. Generally, students in the health sciences and exceptional education will have sufficient coursework in disability related studies. Prerequisite evidence in disability related studies may be obtained at the undergraduate level. One of the following is recommended to meet the computer applications requirement.

- ExEd 730 Assistive and Instructional Technology for Students with Disabilities, 3 cr
- OccThpy 750 Computer applications in Occupational Therapy practice, 3 cr

Those not already admitted to a UWM graduate degree program must complete a UW System online admission application and have an official undergraduate transcript sent to the Graduate School.

Credits and Courses

The certificate in Assistive Technology and Accessible Design requires completion of a minimum 15 credits as listed below.

Introduction (3 cr, must be taken at Graduate level)

- OccThpy 620 Introduction to Assistive and Rehabilitation Technology, 3 cr (Alternate related graduate level course can substitute if this course has been completed on an undergraduate level.)

Assessment (3 cr)

- ExcEduc 765 Assistive Technology Service Delivery in Schools, 3 cr
- ComSDis 715 Assessment and Intervention in Augmentative and Alternative Communication, 3 cr
- OccThpy 770 Assessment in Assistive Technology and Accessible Design, 3 cr

Intervention (6 cr - any U/G course must be taken at Graduate level)

- OccThpy 625 Design and Disability, 3 cr
- OccThpy 595 Vision I: Introduction to Low Vision and Vision Impairment, 3 cr
- OccThpy 596 Vision II: Practical Aspects of Visual Impairment & Low Vision Intervention, 3 cr
- OccThpy 593 Introduction to Biomedical and Rehabilitation Instrumentation, 3 cr
- OccThpy 999 Advanced Independent Study, 1-3 cr
- ExEd 735 Technology and Instruction for Students with Disabilities, 3 cr
- ExEd/OccThpy 777 Fieldwork in Assistive Technology, 3 cr
- ExEd 799 Independent Reading, 1-3 cr
- ComSDis 717 Special Populations in Communication Disorders, 2 cr
- ComSDis 791 Research Experience, 1 cr
- ComSDis 799 Independent Studies, 1-3 cr

Capstone (3 cr)

- OccThpy 760 Assistive and Rehabilitation Technology ***(online)***, 3 cr

Minimum Grade Requirement

To be awarded the certificate, students must earn a minimum grade of B in the certificate courses (B- not allowed).

Transfer Credit

Up to 3 credits of graduate coursework may be considered for transfer to the certificate program. To be eligible, courses must meet the requirements of the Graduate School, and be approved by the ATAD certificate coordinating committee.

Time Limit

Students must complete all certificate courses within 3 years of initial enrollment in the certificate program.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

329 Occupational Therapy in Gerontology. 3 cr. U/G.
In-depth study of occupational therapy principles and practice in working with the elderly in institutions and the community. Prereq: jr st in OccThpy Prog.

427 Essentials of Splinting. 3 cr. U/G.
Evaluation and splint fabrication of upper and lower extremity and trunk. Hands-on lab experience in splint design using various patterns, applications, and materials. Prereq: Bio Sci 203(P); Hum Kin 320(P) or cons instr.

497 Study Abroad - Occupational Therapy: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared course work. Retakable w/chg in topic. Prereq: acceptance to Study Abroad Prog.

510 Occupational Therapy Field Service I. 6 cr. U/G.
Practical application of occupational therapy in health programs for the prevention of psychosocial disorders and for treatment, rehabilitation, and maintenance. Three months field service. Prereq: sr or grad st in OccThpy prog.

515 Occupational Therapy Field Service II. 6 cr. U/G.
Practical application of occupational therapy in health programs for the treatment, rehabilitation, maintenance and prevention of physical disabilities. 3 months field service. Prereq: sr or grad st in OccThpy prog.

526 Topics in Pediatric Occupational Therapy: Theory and Research to Practice: 3 cr. U/G.
Current research which may impact on occupational therapy treatment and theory will be presented. Course content variable. May be repeated up to 3 times for cr or 9 cr. Prereq: OccThpy 326; OccThpy 426; or equiv; cons instr.

541 Evidence for Practice III: Creating Evidence. 3 cr. U/G.
Seminar to study the research process, review of relevant research literature and use of basic research tools necessary for thesis/project development. Prereq: sr st in OccThpy & OccThpy 341(P); or grad st in OccThpy; or cons instr.

550 (327) Upper Extremity Evaluation and Treatment in Hand Therapy. 3 cr. U/G.
Evaluation and treatment of the upper extremity. Techniques of patient evaluation, pertinent anatomy, and recovery. Prereq: jr st in OccThpy prog; or grad st in OccThpy prog; or cons instr.

590 Topics in Occupational Therapy: (Subtitled). 1-3 cr. U/G.
Topics of current interest in O.T. see Schedule of Classes for course offerings. May be retaken with change in topic to max of 9 cr. Prereq: jr st in OccThpy prog or cons instr.

593 Introduction to Biomedical and Rehabilitation Instrumentation. 3 cr. U/G.
Familiarizes students with medical instrumentation in post acute care settings. Basic electrical, electronic and mechanical terminologies. Prereq: jr st in OccThpy prog or cons instr.

595 Vision I: Introduction to Low Vision & Visual Impairment. 3 cr. U/G.
Introduces student to visual impairment including blindness and 'low vision'. Structure and function of the visual system and most common types of pathology. Prereq: jr st or cons instr.

596 Vision II: Practical Aspects of Visual Impairment & Low Vision Intervention. 3 cr. U/G.
Functional implications of visual system pathology; focus on practical aspects of adapting to visual impairment, low vision evaluation and access to service/resources. Prereq: jr st or cons instr.

610 Advances in Occupational Science. 3 cr. U/G.
Explores origins and recent developments in occupational science. Examines the multidimensional nature of occupation; the dynamics of person, environment, occupation interaction; applications to practice. Prereq: sr st in Baccalaureate OccThpy prog or grad st.

620 Introduction to Assistive and Rehabilitation Technology. 3 cr. U/G.
Principles of assistive and rehabilitation technology application and foundation skills for professionals working with people with disabilities to evaluate products and strategies for their use. Prereq: jr st or cons instr.

625 Design and Disability. 3 cr. U/G.
Universal design principles/theories related to creating access for individuals with disabilities. Enables professionals to evaluate and provide recommendations for product and environment universal design. Prereq: jr st or cons instr.

634 Collaborative Consultation and Teaming-Serving Young Children with Disabilities. 3 cr. U/G.
Focus on development of collaboration and consultation skills for professionals employed in interdisciplinary and interagency settings. ExcEduc 634, Occthpy 634, & ComSDis 634 are jointly offered; they count as repeats of one another. Prereq: jr st.

701 Advanced Measurement and Instrumentation in Health Care. 3 cr. G.
Reviews and critiques measurement theories and instruments used by health related researchers and professionals. Includes traditional, outcome and contemporary methods differing from classical psychometric theory. Prereq: grad st.

702 Research in Occupational Therapy. 3 cr. G.
Study of research design pertinent to various areas of clinical practice in occupational therapy. Development of literature review and hypothesis for project/thesis. Prereq: grad st; Occthpy 701(P); Quantitative & Qualitative Research courses or equiv; cons instr.

710 Community Models of Occupational Therapy Practice. 3 cr. G.
Evaluation and application of occupational therapy knowledge to a wide array of community settings. Prereq: grad st in OccThpy prgrm or cons instr

720 Advanced Application of Occupational Therapy Theory. 3 cr. G.
Critical analysis of occupational therapy theories as they relate to practice issues, strategies, and research. Prereq: grad st.

730 Industrial Rehabilitation. 3 cr. G.
Examines current practices and future trends in the prevention and management of work-related disorders within the context of industry. Prereq: grad st.

740 Advanced Topics in Pediatric Occupational Therapy Practice. 3 cr. G.
Examines current practices and future trends for evaluation and treatment of occupational performance between birth and 21 years of age within family and community contexts. Prereq: grad st.

741 Research Seminar. 1 cr. G.
Scholarly discussion forum for graduate students completing their thesis/project. Prereq: grad st; OccThpy 890(C) or 990(C) or cons instr.

750 Computer Applications in Occupational Therapy Practice. 3 cr. G.
Exploration of the current and future uses of computer technology in the field of occupational therapy. Completion of a student-designed software application. Prereq: grad st.

760 Assistive and Rehabilitation Technology. 3 cr. G.
Surveys the use of assistive technology devices and applications for people with motor, sensory, and cognitive impairments.

Prereq: grad st; college-level computer course or equiv or cons instr.

770 Assessment in Assistive Technology and Accessible Design. 3 cr. G.

Background theory, principles of selection, application in practice, and procedures for applying assistive technology (AT) and universal design (UD) assessment and instrumentation. Prereq: grad st; OccThpy 620(P) or cons instr

774 Trauma Counseling I: Theory and Research. 3 cr. G.

Seminar examining impact of trauma experience on individuals, groups and communities following a catastrophic event. Explores traumatic events, mental injuries and impact on memory, learning, physical health and dysfunctional behavior. Nurs 774, OccThpy 774, and Soc Wrk 774 are jointly offered; they count as repeats of one another. Prereq: grad st

775 Trauma Counseling II: Diagnosis and Treatment. 3 cr. G.

Seminar on diagnosis and assessment instruments as well as intervention and therapeutic techniques used to address trauma issues in counseling acute and chronic traumatized clients. Nurs 775, OccThpy 775, and Soc Wrk 775 are jointly offered; they count as repeats of one another. Prereq: grad st; Nurs 774 , OccThpy 774 or Soc Wrk 774, or cons instr

777 Fieldwork in Assistive Technology. 1-6 cr. G.

Provides students with a school- or clinic-based experience in the delivery of assistive technology services. ExcEduc 777 & OccThpy 777 are jointly offered; they count as repeats of one another. May be retaken for 9 cr max. Prereq: grad st & cons instr.

780 Physical Agents in Rehabilitation. 3 cr. G.

Application fo physical agents to restore functional abilities in a rehabilitation setting; includes review of research literature and competency testing. Prereq: grad st

786 Applied Biostatistics in Ergonomics. 3 cr. G.

Statistical methods used in ergonomic studies to analyze, summarize, and report measurements and data. 2 hr lec & 2 hr lab/week. Jointly offered with & counts as repeat of Nurs 786 & Ind Eng 786. Prereq: grad st; Ind Eng 580; a course in statistics or cons instr.

787 Issues in Ergonomics: Epidemiology. 1 cr. G.

Concepts in epidemiological studies employed to study risk factors in ergonomic research. Design considerations, strengths and weaknesses of different types of studies. Jointly offered with & counts as repeat of Nurs 787 & Ind Eng 787. Prereq: grad st; Ind Eng 580; a course in statistics or cons instr.

788 Legal Issues and Regulatory Agencies in Ergonomics. 1 cr. G.

Understanding of ergonomic regulations, regulatory sets, and agencies' and workers' compensations laws. Jointly offered with & counts as repeat of Nurs 788 & Ind Eng 788. Prereq: grad st; Ind Eng 580(P); a course in statistics or cons instr.

790 Design Project. 2-3 cr. G.

Integration and application of concepts learned in other ergonomic courses to analyze and abate ergonomic hazards in a scientific manner. Jointly offered with & counts as repeat of Nurs 790 & Ind Eng 790. Prereq: grad st; Ind Eng 780(P), 783(P), 786(P), 788(P) or cons instr.

810 Critical Evaluation of Theory, Research and Practice. 3 cr. G.

Appraisal and application of knowledge and concepts acquried in academic and fieldwork education to occupational therapy practice. Prereq: grad st; OccThpy 510(P) and 515(P) or cons instr

880 Master's Project. 1-6 cr. G.

Preparation of an individual project under the supervision of the student's major advisor. Prereq: grad st; cons advisor.

890 Research and Thesis. 1-6 cr. G.

Production of a thesis under the supervision of the student's major professor with the consultation of the degree committee. Prereq: grad st; cons advisor

900 Teaching, Learning and Educational Leadership in the Health Sciences. 3 cr. G.

Overview of higher education in the health sciences and the responsibilities of the professoriate in fulfilling the missions of research, teaching, and service. Prereq: grad st.

990 Research and Dissertation. 1-6 cr. G.

Production of a dissertation under the supervision of the student's major professor with the consultation of the degree committee. Prereq: grad st; cons advisor.

999 Advanced Independent Study. 1-3 cr. G.

Supervised investigation of particular topic area either not covered by other occupational therapy courses or at a level of sopistication beyond that in a course. Prereq: grad st; cons instr.

PERFORMING ARTS

Dance
- Phone: (414) 229-2571
- Fax: (414) 229-3335

Film
- Phone: (414) 229-6015
- Fax: (414) 229-5901

School/College: Milton and Lillian Peck School of the Arts

Degrees Conferred:

- MFA in Performing Arts

Overview

The Milton and Lillian Peck School of the Arts offers the Master of Fine Arts in Performing Arts, an interdisciplinary degree program encompassing graduate studies in film and dance. The curricula in this program include intensive professional training in an individual performance area plus significant interdisciplinary experience in related performance and scholarly fields. All curricula are dedicated to maintaining the most rigorous professional and artistic standards in their disciplines.

The programs currently offered are: film and video production in the Department of Film; and choreography and performance in the Department of Dance.

The curricula offered in the program are designed for serious and talented students who are preparing for careers as professionals in the performing arts or as artist-teachers in advanced training programs. Admission to the programs is highly selective, and all curricula include extensive practical performance experience.

The Helene Zelazo Center for the Performing Arts is the premier performance home for the Peck School of the Arts. It includes the 759-seat Helen Bader Concert Hall, a 3,200 square foot rehearsal room, numerous small ensemble practice rooms, and the Mary L. Nohl Art Galleries.

The School's other facilities include the Fine Arts Center which houses two theatres, a recital hall, and related shop, studio, instructional and practice space, and nearby Mitchell Hall with studio, viewing, and processing facilities for the Department of Film as well as the chamber dance theatre and additional rehearsal, studio, and performance spaces for the departments of Theatre and Dance.

Graduate Faculty

Dance

Professors

Bronson, Ferne Caulker, B.A., University of Wisconsin-Milwaukee
Lilly, Janet, M.F.A., University of Michigan, Chair
Parsons, Marcia Ruth, M.A., University of Illinois-Champaign/Urbana

Associate Professors

Ferro, Simone, M.F.A., University of Iowa
Tyson, Andre, Professional Dancer and Choreographer
Wutz, Darci, M.F.A., Smith College

Assistant Professors

Vanier, Luc, M.F.A., University of Illinois - Champaign/Urbana

Film

Professors

Blau, Richard, Ph.D., Yale University
Condit, Cecelia, M.F.A., Temple University
Kitchen, Diane, M.F.A., San Francisco Art Institute

Associate Professors

Callahan, Vicki, Ph.D., University of California - Los Angeles
Cobb, Portia, M.A., San Francisco State University
White, Iverson, M.F.A., University of California-Los Angeles
Yeo, Robert H., M.F.A., School of the Art Institute of Chicago, Chair

Assistant Professors

Rymarcsuk, Gina, M.F.A., University of Washington
Warren-Crow, Heather, Ph.D., University of California-Berkeley

Master of Fine Arts in Performing Arts: Dance

The Department of Dance offers graduate study leading to the Master of Fine Arts in Performing Arts—Dance. The program offers opportunity to hone technical skills, to explore personal intuition, imagination, and craft both in creating dance works and also in performing them, and to focus on critical areas of dance core studies.

Graduate choreographic projects may be pursued both on and off campus. Students may arrange to set works for schools, churches, galleries, community projects, and local dance companies, and are encouraged to discover new dance environments and resources. Two on-campus dance spaces, the Mainstage Theatre and the Mitchell Hall Studio 264, may be available for selected works during the year.

A block of on-campus and distance learning course work is available during the fall and spring semesters, in addition to the intensive summer graduate course offerings, which make the degree accessible to those whose full-time professional employment schedules require them to study at these non-traditional times.

Admission

Applicants who meet Graduate School requirements plus these program requirements may be admitted in good standing:

1. Submission of a videotape or DVD of past or current performance and/or choreographic work.
2. Submission of two letters of recommendation.

Applicants lacking in course background may be admitted with deficiencies on the condition that deficiencies be made up; credits earned in making up deficiencies do not count toward the master's degree.

Major Professor as Advisor

The student must have a major professor to advise and supervise studies as specified in Graduate School regulations; the student may not register for any courses without this advisor's prior approval. A student who is not assigned to an advisor at the time of admission should immediately contact the Program Director.

Credits and Courses

Minimum degree requirement in Performing Arts—Dance is 48 credits, of which at least 6 must be in complementary studies. Students may distribute the required 48 credits of course work as follows:

- Dance Techniques (modern, African, ballet, yoga), 6-14 cr.
- Creating and Performing Dance Works, 12-18 cr.
- Core Dance Studies, 12-18 cr.
- Electives in Complementary Studies, 6-14 cr.
- Final Project, 4-8 cr.
- Total Required: 48 Credits

For those who begin the program summer 2008 and thereafter, the minimum degree requirement in Performing Arts—Dance will be 60 credits distributed as follows, of which at least 6 must be in complementary studies.

- Dance Techniques and Somatics (Modern, African, Ballet, Alexander, Pilates, Yoga), 9-15 cr.
- Creating, Staging, and Performing Dance Works, 16-22 cr.
- Theory and Application of Dance, 12-18 cr.
- Electives in Complementary Studies, 6-14 cr.
- Final Project, 4-8 cr.

Final Project

Each student must undertake a final project of either one or two semesters duration (4-8 cr.). The project must be approved by the major advisor. The project may involve an array of challenging roles and/or production of

choreographic work created by the student. These may occur in a variety of approved performance settings which may include on- or off-campus sites. The quality of performance and/or choreography will determine whether the degree is granted. This evaluation is made by the graduate faculty after the presentation of the final project. No comprehensive examination is required.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Master of Fine Arts in Performing Arts: Film

The Department of Film offers a graduate program in film and video production concentrating on individual and collaborative film and video projects. Students in the graduate program work closely with film and video faculty as well as faculty members from a complementary area of study. The curriculum is designed for serious and talented students who are preparing for careers as professionals in film and video production as artists and artist-teachers. Facilities include a complete production studio including all tools and services necessary for in-house film and video. Students are expected to originate and produce finished projects on a regular basis, culminating in a thesis presentation. A portion of graduate study includes intern study with area media-related organizations and/or enterprises in order to develop specialized skills in actual practice.

Admission

An applicant must meet Graduate School requirements and the requirements listed below to be considered for admission to the program:

1. An undergraduate major in film including at least 40 studio production credits and at least 45 credits outside the major.
2. Submission of original films and other media-related work demonstrating a thorough familiarity with all technical aspects of 16mm film production and creative promise.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

An applicant whose grade point average or quality of work does not meet Graduate School and program standards may be considered for admission on probation.

Transfer of Credits

An applicant who holds graduate credits in film from another institution may, upon admission and with program and Graduate School approval, be permitted to transfer to this program 40% of the total number of graduate credits required for the MFA program.

Major Professor as Advisor

The student must have a major professor to advise and supervise studies as specified in Graduate School regulations. In addition to an advisor from the Film Department Graduate Faculty, each student must select and gain consent from a faculty member representing the determined area of complementary study to advise the student on the construction of this program and its integration with the student's major course of work.

Credits and Courses

Minimum degree requirement is 48 credits, at least 12 of which must be in complementary courses. The distribution of coursework required is as follows:

- 12 credits in Graduate Film Studio/Seminar
- 12 credits in Complementary Studies (G or U/G courses)
- 9 credits in U/G or G Film Courses
- 6 credits in Professional Practice
- 6 credits in Graduate Thesis Studio
- 3 credits in Film Studies*

*Students electing the Film Studies option for complementary studies will have this course counted as one of the four necessary to complete the 12-credit complementary studies requirement. They must then increase their U/G or G Film courses by 3 credits to 12.

The student must earn at least 12 of the above credits through full-time attendance on campus in a single semester.

Thesis Presentation

Upon recommendation of the major professor and advisory faculty, the student presents a thesis exhibition program of work executed since admission to the program. The exhibition may be held either during the semester in which the student completes coursework for the degree or in the following semester.

Time Limit

The student must complete all degree requirements within seven years of the initial enrollment.

Courses - Dance

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

319 Dance Service-Learning. 1-3 cr. U/G.
Service-Learning as field work in a community partnership setting under supervision of Dance faculty member. Conc reg in dance course which allows Dance 319 component by cons instr. May be retaken to max of 4 sem or 9 cr. Prereq: jr st; Dance 219(P), & cons instr.

403 Intermediate Yoga For Dancers. 2 cr. U/G.
A continuation of Dance 103 stressing the performance and integration of more advanced asanas. May be retaken for total of 6 cr. Prereq: Dance 103 or cons instr.

422 Intermediate African Dance. 2 cr. U/G.
A continuation of Dance 122, stressing intermediate skills and greater social cultural nuances. Prereq: Dance 122 or cons instr.

497 Study Abroad in Dance: (Subtitled). 1-12 cr. U/G.
Interdisciplinary and foundational learning in the area of world dance through interactions with and explorations in differing cultures and areas. May be retaken with change in topic to max of 12 cr. Prereq: jr st or cons instr; & acceptance for Study Abroad Prog.

701 Dance Composition I. 3 cr. G.
An investigation of resources for discovering and inventing movement material, and for developing concepts and structures to give this material perceptual, emotional validity. Prereq: grad st in Dance component of MFA prog; conc reg Dance 733(C).

702 Dance Composition II. 3 cr. G.
A continuation of Dance 701. Prereq: grad st; Dance 701(P), conc reg Dance 734(C).

711 Theory and Techniques of Ballet: Intermediate. 2 cr. G.
Technical study of classical ballet. May be repeated twice for cr. Prereq: grad st in Dance component of MFA prog & audition.

712 Theory and Techniques of Ballet: Intermediate. 2 cr. G.
A continuation of Dance 711. May be repeated twice for cr. Prereq: grad st; Dance 711 or audition.

717 Theory and Techniques of Contemporary Concert Dance: Intermediate. 2 cr. G.
An intensive course designed to develop understanding of the major techniques of contemporary concert dance. May be repeated twice for cr. Prereq: grad st in Dance component of MFA prog & audition.

718 Theory and Techniques of Contemporary Concert Dance: Intermediate. 2 cr. G.

A continuation of Dance 717. May be repeated twice for cr. Prereq: grad st; Dance 717 or audition.

721 Alexander Technique: Developmental Movement and Dance. 1-3 cr. G.
A hands-on exploration of the Alexander Technique and the Dart Procedures as they apply to advanced and professional dancers. Prereq: grad st in Dance component of MFA prog or cons instr

722 Alexander Technique Practicum. 1-3 cr. G.
Continuation of Dance 721 focusing on a more in-depth study and application of Alexander Technique for advanced dancers. Prereq: grad st in Dance component of MFA prog & Dance 721

723 Pilates Technique and Applications. 2 cr. G.
Use of Pilates method to understand and articulate essential concepts and theories of movement, and refine dance technique. May be retaken once. Prereq: grad st in MFA Dance Program or cons instr.

733 Improvisation. 2 cr. G.
Techniques and structures for improvisation--the development of processes for evolving movement material from an exploration of the dynamics of inter and intra-relationships, and environment. Prereq: grad st in Dance component of MFA prog & conc reg in Dance 701(C).

734 Improvisation. 2 cr. G.
A continuation of Dance 733. Prereq: grad st; Dance 733(P) & conc reg in Dance 702(C).

743 Dynamic Analysis of Movement I. 2 cr. G.
Exploration of personal patterning and discovery of movement sources at the body level. Incorporates material from bartenieff fundamentals, feldenkrais, and sweigard. Prereq: grad st in dance component of mfa prog.

744 Dynamic Analysis of Movement II. 2 cr. G.
A continuation of Dance 743. Advanced body level work, application of bartenieff fundamentals to dance technique. Prereq: grad st & Dance 743(P).

751 Laban Movement Analysis. 3 cr. G.
Theory and movement practice in effort/shape for use both in performance and in choreography. Prereq: grad st in dance component of mfa prog.

761 Survey of Dance Literature and Bibliography. 3 cr. G.
Lecture, research, and discussion of the major English language dance reference works, and of dance research publications. Prereq: grad st in Dance component of MFA prog.

762 Dance in Secondary Education and College. 3 cr. G.
Methods and philosophy of teaching dance in the secondary school. Theory and practice in solving problems arising in practical teaching situations. Observation of dance lessons. Prereq: grad st & admis to MFA prog in Dance.

771 History of Renaissance and Baroque Dance. 3 cr. G.
Lecture, discussion of readings of the periods (in translation). Emphasis also upon performing some of the period dances. Prereq: grad st in dance component of mfa prog.

772 American Concert Dance of the Twentieth Century. 3 cr. G.
Graduate seminar in special topics of American concert dance of the twentieth century. Prereq: grad st in Dance component of MFA prog.

775 Valuing and Evaluation of Dance. 3 cr. G.
Observing and describing dancing and choreography and shaping values. Prereq: grad st.

790 Repertoire and Ensemble. 1-3 cr. G.
Practicum in group performance in dance department productions, touring groups, and performances related to the dance department. Includes original works from classical and contemporary repertoire. May be repeated to max of 12 cr. Prereq: grad st in Dance component of MFA program.

799 Independent Study. 1-3 cr. G.
Individual faculty and student will define the teaching/learning contract for the semester and agree on the credit. Prereq: grad st.

801 Choreography I. 3 cr. G.
Creating fully mounted works; choreography, performance quality, lighting decor, costumes. Prereq: grad st in Dance choreography track of MFA prog; Dance 701(P) & 702(P) or cons instr.

802 Choreography II. 3 cr. G.
Creating fully mounted works of greater length and complexity. Prereq: grad st in Dance Choreography track of MFA prog; Dance 701(P), 702(P), 801(P), or cons instr.

861 Research Methodology for Dance. 3 cr. G.
Lecture, formulation of research proposal, research and write-up of a dance research problem. Prereq: grad st & admis to dance component of mfa prog.

871 Applied Anatomy for Dance. 2 or 3 cr. G.
Study of human bony and neuromuscular structures in theory and movement. Lec only for 2 cr; lec & lab for 3 cr. Prereq: grad st in dance component of MFA prog; Dance 711(P) & 717(P) or cons instr.

873 Field History: Contemporary Dance Festivals. 2-4 cr. G.
Research, reading, attendance and documentation on selected festivals/series events. Pre-study of choreography/performance style, background, influences, artistic themes. Group discussions and evaluations. May be repeated with permission to max of 9 cr. Prereq: grad st in Dance component of MFA prog.

880 Developing Performance Quality. 1-3 cr. G.
Studies in dynamics of specific choreography. Cr determined prior to regis. May be repeated for up to 6 cr. Prereq: grad st in MFA performance component of dance prog; Dance 711 & 717 or cons instr.

889 Special Workshops: (Subtitled). 1-3 cr. G.
Special short intensive workshops of 1-4 weeks during inter-terms or summer sessions presented by guest artists. May be retaken to 9 cr max. Prereq: grad st in MFA component of dance prog or cons instr.

890 Repertoire and Ensemble. 1-3 cr. G.
Practicum in major roles and productions of the department or related to the department. May be repeated to max of 6 cr. Prereq: grad st; admis to performance track of dance mfa curric; cons chair.

990 Dance Final Thesis/Project. 2-4 cr. G.
Final demonstration of craft and artistry mastered in program, when completion approved by project committee. May be repeated to max of 8 cr. Prereq: grad st; cons dept chair.

Courses - Film

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

420 Intermediate Media Arts Module: (Subtitled). 3 cr. U/G.
Intermediate level course in specialized production skills in film, video, audio or new genres. May be retaken with change in topic to max of 9 cr. Prereq: admis to upper level course per portfolio review; jr st or cons instr. In case of over-enrollment, admission based on gpa in major.

450 Advanced Internship/Professional Practice. 1-6 cr. U/G.
This project-oriented course supports student engagement in professional internships, production of a media project for a non-profit organization or curating a media arts event/series. May be retaken to max of 9 cr. Prereq: admis to upper-level Film classes per portfolio review, cons instr.

455 Integrated Film/Video Exploration. 6 cr. U/G.
A study of the relationship between film/video production and film/video analysis, team taught by an artist and a critic. Jointly offered with ArtHist/English/JMC 310. Prereq: jr st. Film majors: portfolio review and/or cons instr; non-film majors: cons instr.

456 Digital Photography: Advanced. 3 cr. U/G.
Self directed investigation, critiques and seminar discussions. Jointly offered with & counts as repeat of Art 456(455). Prereq: jr st; grade of B- or better in Art 350(P) or 352(252)(P); or grade of B or better in Film 350(P) or 352(P); or grad st; or cons instr.

460 Advanced Media Arts Module: (Subtitled). 3 cr. U/G.
Advanced-level course in specialized production skills in film, video, audio or new genres. May be retaken with change of topic to max of 9 cr. Prereq: admis to upper level course per portfolio review; jr st or cons instr. In case of over-enrollment, admission based on gpa in major.

470 Advanced Video Workshop: (Subtitled). 1-6 cr. U/G.
Emphasis on individual projects exploring portable and studio video production techniques. Students to submit production proposals for faculty approval. May be retaken to max of 6 cr. Prereq: jr st; admis to upper-level film classes per portfolio review, Film 389(P) with cons instr; or grad st.

552 Advanced Studio Practice in Photography. 3 cr. U/G.
Students define and pursue their own photographic project. Written requirements as well as a final portfolio required. Jointly offered with & counts as repeat of Art 552. Prereq: jr st; grade of B- or better in Art 451(351)(P), 454(P) or 456(455)(P) or grade of B or better in Film 451(P), 454(P) or 456(P); or grad st; or cons instr.

553 Photography Portfolio. 3 cr. U/G.
Continuation of Art 552 or Film 552 with emphasis on final presentation of project. Jointly offered with & counts as repeat of Art 553. Prereq: jr st; grade of B- or better in Art 552(P) or grade of B or better in Film 552(P); or grad st; or cons instr.

700 Professional Practice: Production. 3 cr. G.
Professional production internship with area film-related enterprise to develop specialized technical skills or practical experience in film exhibition. May be repeated to max of 6 cr. Prereq: grad st & cons advising faculty member.

710 Graduate Film Studio/Seminar I. 3 cr. G.
Each student to pursue a film production project to completion. Lectures and readings in seminar format to address issues facing independent film production and distribution. Prereq: grad st.

712 Graduate Film Studio/Seminar II. 3 cr. G.
Faculty advised film production studio course. Instruction in advanced production skills and directed reading relevant to the nature of proposed film projects. Prereq: grad st.

714 Graduate Film Studio/Seminar III. 3 cr. G.
Faculty advised film production studio course to introduce and familiarize students with specific crew member responsibilities of collaborative filmmaking. Prereq: grad st.

720 Graduate Film/Video Workshop I. 1-6 cr. G.
Seminar/open studio focusing on conceptualization and production of student-initiated film/video projects. Each student will submit a project proposal to the instructor. This will be accompanied by a shooting schedule and reading list. May be retaken to max of 9 cr. Prereq: grad st film or cons instr.

722 Graduate Film/Video Workshop II. 1-6 cr. G.
Seminar/open studio. Continuation of Film 720. May be retaken to max of 9 cr. Prereq: Film 720.

730 Advanced Research in Film I. 3 cr. G.
Faculty advised, pre-production research leading to the completion of a shooting script and production schedule for the thesis film project. Prereq: grad st; two of the following: Film 710, 712 & 714.

732 Advanced Research in Film II. 3-6 cr. G.
Independent study with selected faculty member adviser for the production and post-production phase of the thesis film project. May be retaken to max of 6 cr. Prereq: grad st; Film 710(P), 712(P), 714(P), 730(P).

760 Film/Video Module: Post-Production Sound. 3 cr. G.
Course in sound post-production for the media arts. Prereq: grad st; cons instr.

799 Independent Graduate Study: (Subtitled). 1-6 cr. G.
Variable content. Supervised independent study, production and non-production for the grad student in film/video. May be repeated to max of 9 cr. Prereq: grad st; cons instr.

PHILOSOPHY

- Phone: (414) 229-4719
- Fax: (414) 229-5022
- E-mail: philosophy@uwm.edu

School/College: College of Letters and Science

Degrees Conferred:

- MA in Philosophy

Overview

The Department of Philosophy offers a program of graduate study leading to the degree of Master of Arts. The general purpose of this program is to provide students with the background and stimulus for critical and original philosophical thoughts. The program is designed to serve both those students who wish to pursue a Doctor of Philosophy degree in philosophy and those students who wish either to terminate their formal philosophical studies with the Master of Arts degree or to integrate a graduate level of study in philosophy with graduate studies in other academic areas.

Graduate Faculty

Distinguished Professors

Atherton, Margaret L., Ph.D., Brandeis University
Koethe, John L., Ph.D., Harvard University, Chair
Schwartz, Robert, Ph.D., University of Pennsylvania

Professors

Bagnoli, Carla, Ph.D., University of Milan
Leeds, Stephen, Ph.D., Massachusetts Institute of Technology
Mondadori, Fabrizio, Ph.D., Harvard University
Sensat, Julius O., Ph.D., University of Texas - Austin

Associate Professors

Liston, Michael, Ph.D., University of California-San Diego
Tierney, Richard, Ph.D., Columbia University

Assistant Professors

Bristow, William, Ph.D., Harvard University
Ferrero, Luca, Ph.D., Harvard University
Hinchman, Edward, Ph.D., University of Michigan
Westlund, Andrea, Ph.D., University of Michigan

Master of Arts in Philosophy

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

- Undergraduate major in philosophy or other academic background judged suitable by the Department.
- Submission of scores on the General Test of the Graduate Record Examination.
- Three letters of recommendation concerning academic qualifications.
- A sample of written work is recommended but not required.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. At time of admission, the student's program will be supervised by the Graduate Advisor.

A student planning to work beyond the master's program should select, in consultation with the advisor, courses which will develop broad philosophical competence. A student intending to terminate studies with the master's degree may plan a more specialized program.

Advisory Committee

During the first year in attendance, the student chooses an advisor and an advisory committee of three faculty members. The student's advisor serves as chair of this committee. The choice of committee is made in consultation with the student's advisor, and submitted to the Department's Graduate Studies Committee for approval. No later than the second week of the student's second semester in the program, the advisory committee meets with the student to discuss the individual's background in philosophy and goals in this program. By the end of the student's second semester the committee has conferred with the student's instructors and meets with the student to discuss that individual's progress in the program. At that time the student, together with the committee, plans the balance of the student's work in the program and how all requirements can best be met. The committee continues to gather information on the student's class work from the instructors, and at least once each semester meets with the student to discuss the student's continuing progress, future plans in the program and the meeting of departmental requirements. The student may at any time petition the Graduate Studies Committee for a change in the composition of the advisory committee.

History Requirement

Students taking Option A or B will be required to demonstrate competence in history of philosophy by passing 430 and 432 with a grade of B or better. The Graduate Studies Committee may certify competence if the student has as an undergraduate taken 430 and 432 at UWM within the past five years or has taken their equivalent as determined by the Committee. The determination may include an equivalency exam. Students selecting the language and linguistics concentration need only meet the requirement for 432.

Logic Requirement

The student is required to demonstrate competence in logic by passing 511 or 712 with a grade of B or better. The Graduate Committee may certify competence if within the last five years the student has taken 511 or 712 or has taken an equivalent course as determined by the Committee. The determination may include an equivalency exam.

Degree Alternatives

The Department of Philosophy offers three alternatives by which the Master of Arts degree in philosophy may be obtained: Option A, the non-thesis option; Option B, the thesis option; and a language and linguistics concentration with a thesis. There is no foreign language requirement for the completion of the Master of Arts degree in philosophy, though students are encouraged to develop proficiency in a foreign or classical language.

Option A: Non-thesis Option (30 Credits Plus Exam)

Credits and Courses

Minimum degree requirement is 30 credits in coursework, 21 of which must normally be in philosophy, 9 of which may be in related fields. All 30 credits must be earned with grades of B or better; and at least 12 must be in graduate seminars. (The Philosophy Department Graduate Studies Committee may permit students to count Philosophy 681 or 685 toward meeting this requirement, when the content and level of difficulty are equivalent to that of a graduate seminar).

A student proposing a program of study involving more than 9 credits of independent study, or fewer than 21 credits in philosophy courses, must gain specific approval of the student's advisory committee.

Every student choosing the non-thesis option takes a written exam of no longer than four hours on a philosophical area chosen by the student in consultation with the advisory committee. At least one full semester before the student is to take this exam, a specific list of primary and secondary sources to be covered on the exam is drawn up by the committee together with the student. The committee provides the student with sample questions.

Thesis

Not required.

Time Limit

This program is designed to be completed in two years of full-time attendance. However, all degree requirements must be completed within five years of initial enrollment.

Option B: Thesis Option (30 Credits Plus Defense)

Credits and Courses

Minimum degree requirement is 30 credits, including the writing of a thesis, plus its defense. Of the 30 required credits, 21 credits must normally be in philosophy, and 9 may be in related fields. All 30 credits must be earned with a grade of B or better, and at least 12 credits must be in graduate seminars. (The Philosophy Department Graduate Studies Committee may permit students to count Philosophy 681 or 685 toward meeting this requirement, when the content and level of difficulty are equivalent to that of a graduate seminar.) A student proposing a program of study involving more than 9 credits of independent study, or fewer than 21 credits in philosophy courses, must gain specific approval of the student's advisory committee.

The thesis is to be written on a philosophical subject chosen in consultation with the student's advisory committee. The student and the committee are to meet sufficiently often so that the committee may adequately supervise the writing of the thesis. Upon completion of the thesis the student is required to defend the thesis orally.

Thesis

Required (as above).

Time Limit

This program is designed to be completed in two years of full-time attendance. However, all degree requirements must be completed within five years of initial enrollment.

Language and Linguistics Concentration with Thesis (30 credits Plus Defense)

Credits and Courses

Linguistics 464 or an equivalent is a prerequisite. Minimum degree requirement is 30 credits, including the writing of a thesis, plus its defense. Of the 30 credits at least 18 credits must be in philosophy with the remainder in linguistics. Philosophy 516 and Linguistics 466 and 564 are required, unless the student has taken these courses at UWM within the past five years or has taken their equivalent as determined by the Graduate Studies Committee. All 30 credits must be earned with a grade of B or better and at least 6 credits must be in graduate philosophy seminars. (The Philosophy Department Graduate Studies Committee may permit students to count Philosophy 681 or 685 towards meeting this requirement, when the content and level of difficulty are equivalent to that of a graduate seminar.) A student proposing a program of study involving more than 9 credits of independent study, must gain specific approval of the student's advisory committee.

The thesis is to be written on a language related subject chosen in consultation with the student's advisory committee. The student and the committee are to meet sufficiently often so that the committee may adequately supervise the writing of the thesis. Upon completion of the thesis the student is required to defend the thesis orally.

Thesis

Required (as above); Philosophy 990 may be taken only once.

Time Limit

This program is designed to be completed in two years of full-time attendance. However, all degree requirements must be completed within five years of initial enrollment.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

303 Theory of Knowledge. 3 cr. U/G.
Study of the nature, source, and limits of our knowledge of the world of experience and of necessary truth. Prereq: jr st; Philos 101(P), 201(P), or 215(P).

317 Metaphysics. 3 cr. U/G.
Study of perennial philosophical issues about the nature of the world and our relation to it; realism, idealism, causality, the mind-body problem, time, truth. Prereq: jr st & 3 cr in philos.

324 Philosophy of Science. 3 cr. U/G.
Study of traditional and recent views about the nature, aim and ways of evaluating scientific theories, with reference to both the natural and social sciences. Prereq: jr st & 3 cr in philos.

335 Philosophy of Biology. 3 cr. U/G.
Philosophical study of topics in the biological sciences, such as evolutionary explanations, genetic determinism, the definition of life, what constitutes a biological individual. Prereq: jr st; 3 cr in philos.

341 Modern Ethical Theories. 3 cr. U/G.
Ethical theories and problems as discussed in the late nineteenth and twentieth centuries. Prereq: jr st & 3 cr in philos.

349 Great Moral Philosophers. 3 cr. U/G.
Major themes of moral philosophy from Plato and Aristotle to Bentham and Mill, with critical study of the outstanding works. Prereq: jr st & 3 cr in philos.

350 Introduction to the Comparative Study of Religion. 3 cr. U/G.
Analysis of the nature of religion, of various comparative typological classifications and methodological approaches; basic problems in understanding the varieties of religious experience and expression. Prereq: jr st; Philos 204(P), Philos/Hist/Hebr St 275(P) or Anthro 203(P).

351 Philosophy of Mind. 3 cr. U/G.
Critical study of the nature of mind and its relation to body and matter, with emphasis on recent advances in philosophy and psychology. Prereq: jr st & 3 cr in philos.

355 Political Philosophy. 3 cr. U/G.
Philosophical doctrines involved in justification of political decisions; analysis of fundamental concepts such as the common good, authority, justice, natural law, and natural rights. Prereq: jr st; Philos 242(P) or a course in ethics.

358 Action, Will, and Freedom. 3 cr. U/G.
The nature of the will, agency, intentional action, and the problem of free will and determinism. Prereq: jr st, 3 cr philos; or grad st.

360 Philosophy of Perception. 3 cr. U/G.
Major issues in the philosophy of perception: the nature of sensation, perception and inference, the relationship of perception and belief. Prereq: jr st; 3 cr in Philos.

384 (560) The Philosophy of Law. 3 cr. U/G.
The idea of law and its relationship to morality. Issues of legal obligation, rights, responsibility, and punishment. Philos 384 & Pol Sci 384 are jointly offered; they count as repeats of one another. Prereq: jr st; 3 cr philos or previous course in political theory or law studies recom.

430 History of Ancient Philosophy. 3 cr. U/G.
From the pre-Socratics to Augustine. Particular emphasis on Plato and Aristotle. Prereq: jr st & 3 cr in philos.

431 History of Medieval Philosophy. 3 cr. U/G.
Critical and historical examination of writings of medieval philosophers such as Augustine, Anselm, Aquinas, Duns Scotus, Ockham, Al Farabi, Maimonides. Prereq: jr st & 3 cr in philos.

432 History of Modern Philosophy. 3 cr. U/G.
From Descartes through Kant. Prereq: jr st & 3 cr in philos.

433 Nineteenth-Century Philosophers. 3 cr. U/G.
Hegel, Schopenhauer, Marx, Kierkegaard, Nietzsche, and others. The conflict of idealistic, materialistic, and irrationalist philosophies of the nineteenth century and their influence on its social, literary, and religious movements. Prereq: jr st & 3 cr in philos.

434 Survey of Contemporary Philosophy. 3 cr. U/G.
Comparison of problems and solutions dealt with by currently active movements and philosophers, including Carnap, Croce, Dewey, Heidegger, Husserl, Moore, Russell, Sartre, and Wittgenstein. Prereq: jr st; 3 cr in philos.

435 Existentialism. 3 cr. U/G.

Analysis of existentialist thinkers such as Kierkegaard, Nietzsche, Heidegger, Sartre, and Merleau-Ponty. Prereq: jr st & 3 cr in philos.

437 Phenomenology. 3 cr. U/G.
Husserl's phenomenological method and its impact on recent continental philosophy, e.g. Heidegger, Sartre, Merleau-Ponty. Prereq: jr st & 3 cr in philos.

461 Islamic Philosophy and Mysticism. 3 cr. U/G.
Problems central to Islamic theology, philosophy, and mysticism, and their relations to the teachings of Islam. Satisfies L&S International req. Prereq: jr st & 3 cr in philos.

474 Contemporary Religious Thought: 3 cr. U/G.
Analysis of two or more contemporary religious thinkers (e.g., Buber, Heschel, Tillich, Barth, Bultmann, death-of-God theologians, Moltmann, Pannenberg, Rahner, Chardin). Difficulties and objections are discussed. Retakable w/chg in topic to 9 cr max. Prereq: jr st, 3 cr in philos.

475 Special Topics in Indian Religious Thought: (Subtitled). 3 cr. U/G.
Intensive study of selected Hindu and Indian Buddhist thinkers and schools of thought, e.g. the Vedanta of Sankara and Ramanuja, Mahayana thought, modern Vedanta, Gandhi. Retakable w/chg in topic to 9 cr max. Pereq: jr st; 3 cr in philos.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

502 Phenomenology of Religion. 3 cr. U/G.
A comparative examination of types of religious experience and expression; the holy or sacred, mysticism, prophecy, myth and ritual, religious communities and/or leaders, etc. Prereq: jr st & 3 cr in philos.

511 Symbolic Logic. 3 cr. U/G.
First-order predicate calculus; formal properties of theoretical systems; chief results of modern mathematical logic; advanced topics such as completeness and computability. Jointly-offered w/& counts as repeat of CompSci/Math 511. Prereq: jr st, either Philos 212(P) or 6 cr math at the 300-level or above; or grad st.

512 Methods of Logic: (Subtitled). 3 cr. U/G.
Selected problems in the philosophy of logic; the philosophical relevance of mathematical logic, modal logic, and various non-standard logics. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Philos 212(P) or 511(P).

516 Language and Meaning. 3 cr. U/G.
Philosophical issues of the semantics, syntax and pragmatics of language; relations between philosophy of language and metaphysics, epistemology and philosophy of science. Prereq: jr st & Philos 101(P) or 432(P).

517 Special Problems in the Philosophy of Language and Linguistics: 3 cr. U/G.
In depth study of one or more topics concerning the nature of language; its acquisition, use and formal structures. Retakable w/chg in topic & cons advisor & instr to 6 cr max. Prereq: jr st; 3 cr in philos.

518 Philosophy of History. 3 cr. U/G.
The nature of historical knowledge and belief in terms of the justification of historical narration, explanation and prediction. Prereq: jr st & 3 cr in philos.

519 Special Problems in Metaphysics and Epistemology: (Subtitled). 3 cr. U/G.
Intensive study in such topics as perception, skepticism, induction, mathematical knowledge, universals, causality, substance, determinism, possibility. Retakable w/chg in topic to 9 cr max. Prereq: jr st & 3 cr in philos.

520 Philosophy of the Natural Sciences. 3 cr. U/G.
The nature and function of science; the logic of scientific method; clarification of such concepts as cause, law, theory, probability, determinism, and teleology. Prereq: jr st & 3 cr in philos.

521 Philosophy of the Social Sciences. 3 cr. U/G.
The nature and scope of the social sciences; explanatory, interpretive, and normative concerns in theory construction, their interconnection, and their methodological implications. Prereq: jr st & 3 cr in philos.

522 Special Topics in the Philosophy of Science: (Subtitled). 3 cr. U/G.
Consideration of one or more of the following: logic of theory construction, theoretical entities, measurement, nature of laws, conventionalism, operationalism, and induction. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

532 Philosophical Problems: (Subtitled). 3 cr. U/G.
Intensive study of one or two particular problems, such as determinism and freedom, ethical relativism, memory, or perception. Retakable w/chg in topic to 9 cr max. Prereq: jr st & 3 cr in philos.

535 Philosophical Topics in Feminist Theory: (Subtitled). 3 cr. U/G.
Study of selected feminist theorists with an emphasis on past or contemporary thinkers. Attention will be paid to the philosophical importance of the problems raised. Retakable w/chg in topic to 6 cr max. Prereq: jr st; a course in philos or women's stds advisable.

538 (438) Problems in Marxism. 3 cr. U/G.
Classical works in Marxism; issues involved in the attempt to apply Marxist concepts and theories to present-day society. Prereq: jr st; Philos 432 (P); or cons instr

542 Punishment and Responsibility. 3 cr. U/G.
Views on the moral permissibility of punishment and other forms of penalization; the foundations of a general theory of moral responsibility. Prereq: jr st & 3 cr in philos. Philos 241(R) or social science background recom.

550 (450) Plato. 3 cr. U/G.
ntensive study of one or more of Plato's dialogues or of major themes and problems in Plato's thought. Particular attention to careful analysis of the texts. Prereq: jr st; 3 cr philos; Philos 430(R).

551 (451) Aristotle. 3 cr. U/G.
Intensive study of one or more of Aristotle's major works or of themes and problems in Aristotle's thought. Particular attention to careful analysis of the texts. Prereq: jr st; 3 cr philos; Philos 430(R).

552 (452) Special Topics in Ancient and Medieval Philosophy: (Subtitled). 3 cr. U/G.
Intensive study of a philosopher, movement, or historical problem in ancient or medieval philosophy, e.g. pre-Socratics, Hellenistic philosophy, Aristotle's thought in medieval Europe, Islamic and Jewish philosophy. Retakable w/chg in topic to 9 cr max. Prereq: jr st; 3 cr philos; Philos 430(R) or 431(R).

554 (453) Special Topics in the History of Modern Philosophy: (Subtitled). 3 cr. U/G.
Intensive study of a philosopher, movement, or historical problem in modern philosophy, e.g., Spinoza, British empiricists, Locke's influence upon the Enlightenment, overthrow of Hegelian idealism. Retakable w/chg in topic to 9 cr max. Prereq: jr st; 3 cr philos; Philos 432(R); or cons instr.

555 (455) Recent Philosophy: (Subtitled). 3 cr. U/G.
Intensive study of one or more philosophers or philosophical movements of the recent past. Retakable w/chg in topic to 9 cr max. Prereq: jr st; 3 cr philos.

562 Special Topics in Ethics and Social and Political Philosophy: (Subtitled). 3 cr. U/G.
Intensive study of issues such as the concept of law, punishment, liberty, civil disobedience, the public good, and the applicability of scientific method to social issues. Retakable w/chg in topic to 9 cr max. Prereq: jr st & 3 cr in philos.

681 Seminar in Advanced Topics: (Subtitled). 3 cr. U/G.
Seminar on a philosopher, philosophical movement, issue, or problem for majors and graduate students. Research papers required. Additional prereqs announced in Schedule of Classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: sr st & 12 cr in philos at 300-level or above; or grad st.

712 Fundamentals of Formal Logic. 3 cr. G.

A study of basic aspects of contemporary formal logic. Prereq: grad st.

756 Seminar in Major Movements in Philosophical Thought: (Subtitled). 3 cr. G.
Intensive study of school or movement such as continental rationalism, empiricism; existentialism, phenomenology, etc. Specific topic and any additional prerequisites announced in schedule of classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

758 Seminar in Major Philosophers: (Subtitled). 3 cr. G.
Intensive study of the thought or system, or an important part of the thought or system, of a major figure in philosophy. Specific topics and any additional prerequisites announced in schedule of classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

790 Advanced Topics in Philosophy: (Subtitled). 3 cr. G.
Discussion of special advanced topics in Philosophy. Retakable w/chg in topic to 9 cr max. Specific topics may be jointly-offered w/CompSci. Prereq: grad st; add'l prereqs depending on topic.

820 The Teaching of Philosophy. 0 cr. G.
Discussion group with teaching assistants and their supervisor. Required for all teaching assistants teaching a Philos course.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee assessed for 1 cr. Prereq: grad st.

903 Seminar in Epistemology: (Subtitled). 2-3 cr. G.
Specific topics and any additional prerequisites announced in schedule of classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; & cons instr.

911 Seminar in Logic: 2-3 cr. G.
Specific topics and any additional prerequisites announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons instr.

916 Seminar in Philosophy of Language and Linguistics: (Subtitled). 2-3 cr. G.
Specific topics and any additional prerequisites announced in schedule of classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

920 Seminar in the Philosophy of Science: (Subtitled). 2-3 cr. G.
Specific topics and any additional prerequisites announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons instr.

941 Seminar in Ethics and Social and Political Philosophy: (Subtitled). 2-3 cr. G.
Specific topics and any additional prerequisites announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons instr.

960 Seminar in Metaphysics: (Subtitled). 2-3 cr. G.
Specific topics and any additional prerequisites announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons instr.

990 Thesis. 3 cr. G.
- Retakable only once in option B. Not retakable by students in Language & Linguis concentration. Prereq: grad st in option B or in Language & Linguis concentration; cons major prof & committee.

999 Advanced Independent Study. 1-3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons dept chair.

PHYSICAL THERAPY

- Phone: (414) 229-3360
- Fax: (414) 229-3366
- E-mail: pt-programs@uwm.edu

School/College: College of Health Sciences

Degree Conferred: Doctor of Physical Therapy

Overview

The Doctor of Physical Therapy is a consortial degree with the University of Wisconsin-La Crosse. The degree is offered to two cohorts: those entering the profession for the first time (Entry-Level DPT) and those already licensed and returning to post-professional education (Transitional DPT).

The Entry-Level DPT is a full-time, three-year, tracked, traditionally taught program. Students will enroll in the program in Summer and will be continuously enrolled for the 34-month curriculum. Students will apply in Fall, to be enrolled in the following Summer.

The Doctor of Physical Therapy at University of Wisconsin-Milwaukee is seeking accreditation by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association. The program submitted an Application for Candidacy, which is the formal application required in the pre-accreditation stage. Submission of this document does not ensure that the program will be granted Candidate for Accreditation status nor does it ensure that the program will be granted accreditation.

Graduate Faculty

Professors

Duncan, Margaret C., Ph.D., Purdue University
Hasbrook, Cynthia A., Ph.D., University of Illinois, Chair
Snyder, Ann C., Ph.D., Purdue University

Associate Professors

Hart, Barbara A., Ph.D., University of Massachusetts
Meyer, Barbara B., Ph.D., Michigan State University
Sander, Erika, Ph.D., University of California-Berkeley

Assistant Professors

Earl, Jennifer, Ph.D., Pennsylvania State University
Huddleston, Wendy, Ph.D., PT, Medical College of Wisconsin
Moerchen, Victoria, PhD., PT, University of Wisconsin-Madison
O'Connor, Kristian M., Ph.D., University of Massachusetts-Amherst
Papaioannou, George, Ph.D., University of Strathclyde
Smith, J. Carson, Ph.D., University of Georgia
Strath, Scott J., Ph.D., University of Tennessee-Knoxville
Swartz, Ann M., Ph.D., University of Tennessee-Knoxville
Zalewski, Kathryn R, Ph.D., PT, University of Wisconsin-Milwaukee

Entry-Level Doctor of Physical Therapy

This bulletin reflects only the first year of courses for the e-DPT program and the core courses for the t-DPT program.

Admission

Admission to the program is competitive. The program will enroll 24 students. An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

- Completed undergraduate degree by May 30 of the application year.
- A minimum overall grade point average of 3.0 (on a 4.0 scale)
- Completion of 10 prerequisite courses
  - General Biology (4 cr)
  - Human Anatomy (4 cr)*
  - Human Physiology (4 cr)*
  - Chemistry I (4 cr)*
  - Chemistry II (4 cr)*
  - Statistics (3 cr)
  - Physics I (4 cr)*
  - Physics II (4 cr)*
  - Sociology (3 cr)
  - Psychology (3 cr)

  * courses requiring a lab component
- Submission of scores on the General Test of the Graduate Record Examination taken within the last five years
- Completion of two, 20-hour-each observational experiences with a licensed physical therapist. Forms used to verify these experiences are available on the e-DPT Web site.
- Two letters of recommendation, one of which must be an academic reference.
- Completion of the Program-specific admission paperwork available on the e-DPT Web site. Narrative essays are evaluated as part of the selection process.

An applicant who does not meet minimum departmental or Graduate School entrance requirements, but meets Graduate School requirements for a probationary admission (see the Admission on Probation section of this Bulletin) should contact the Graduate Coordinator for additional probationary entrance requirement information.

Selection

The program will enroll 24 students per year. Students are selected based on GPA, GRE scores, two letters of recommendation (one academic reference, one personal reference), and narratives. For equally qualified candidates, depth of preparation in the basic and human movement sciences will be considered by the selection committee. UWM kinesiology students are strongly encouraged to apply.

Major Professor as Advisor

The Graduate School requires that each student have a major professor to advise, supervise and approve the program of study before registering for courses. Students will be assigned a temporary advisor on admission to the program. Students will be able to change advisors within the first year of the professional program.

Credits and Courses

The program is a tracked curriculum of 112 credits including 36 weeks of internship in the final year of the program. Students will enroll as full time students for each term of study (Summer, Fall, Spring) and will enroll during UWinteriM of their first year in the program. There is no part-time option for students in the e-DPT program.

Transitional Doctor of Physical Therapy

Admissions suspended until further notice

Admission

The program will cap enrollment in any one class at 24 students, but will not limit total enrollment in the program. An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

- Completed professional degree in Physical Therapy with a valid license to practice Physical Therapy in the United States.
- A minimum overall grade point average of 2.75 in the first professional degree program.
- English proficiency as defined by the Graduate School.
- Two letters of recommendation.
- Statement of professional development.
- Submission of scores on the General Test of the Graduate Record Examination taken within the last 5 years **OR** a grade of B or better in HMS 714 (Evidence in Practice I) and one other course in the program core achieved prior to admission. HMS 713: Seminar is approved for the alternate admission requirement.

An applicant who does not meet minimum departmental or Graduate School entrance requirements, but meets Graduate School requirements for a probationary admission (see the Admission on Probation section of this Bulletin) should contact the Graduate

Coordinator for additional probationary entrance requirement information.

Major Professor as Advisor

The Graduate School requires that each student have a major professor to advise, supervise and approve the program of study before registering for courses. Students will be assigned a temporary advisor on admission to the program.

Credits and Courses

The program requires completion of a 15-credit core. For students entering the program with a professional bachelor's degree, 45 credits are required for degree completion. For students entering the program with a professional or post-professional master's degree, 30 credits are required for degree completion.

Transitional DPT Core Courses

- HMS 713 Professional Issues Seminar. 1 cr.
- HMS 714 Evidence for Practice I. 3 cr.
- HMS 715 Evidence for Practice II. 3 cr.
- HMS 716 Seminar: The Culture of Evidence. 1 cr.
- HMS 718 Clinical Radiology. 2 cr.
- HMS 743 Health Systems Review. 2 cr.
- HMS 745 Health Promotion/Wellness for Physical Therapy Practice. 3 cr.

Electives for the Transitional DPT include:

- HMS 541 Clinical Foundations of the Physical Therapy Examination. 5 cr. U/G.
- HMS 542 Physical Agents. 3 cr. U/G.
- HMS 565 Motor Behavior. 2 cr. U/G.
- HMS 635 Pathophysiology. 2 cr. U/G.
- HMS 640 Scientific Principles of Interventions. 5 cr. U/G.

Other electives are in development.

Courses

Courses numbered 300 to 699 are Undergraduate/Graduate.
Courses numbered 700 and above are Graduate only.

Clinical Lab Sciences (C L SCI)

C L Sci 246/555 Therapeutic Drug Monitoring and Toxicology is a required core course for the Transitional Doctor of Physical Therapy. This course is not offered by HMS.

Human Movement Sciences (HMS)

525 (HMS 525) Human Gross Anatomy. 6 cr. U/G. A comprehensive consideration of the human anatomy including both neuro-musculoskeletal components and internal organ systems. Prereq: Grad student status & enrollment in the Doctor of Physical Therapy Prog. Students in good standing in prog or cons of instr.

526 (HMS 526) Applied Anatomy Assessment. 1 cr. U/G. A course designed to acquaint the student with the clinical significance of anatomical landmarks & palpation skills. Prereq: Grad student status & enrollment in the Doctor of Physical Therapy Prog. Students in good standing in prog or cons of instr.

527 (HMS 527) Kinesiology and Biomechanics of Normal and Abnormal Movement. 3 cr. U/G. The principles & theories of the biomechanics of human motion presented to develop analytical skills to assess normal & abnormal movement. Prereq: Grad student status & enrollment in the Doctor of Physical Therapy Prog. Students in good standing in prog or cons of instr.

536 (HMS 536) Physiological Regulation in Exertion and Disease. 2 cr. U/G. This course is designed to provide the student with an overview of the physiological basis of activity. Prereq: Grad student status & enrollment in the Doctor of Physical Therapy Prog. Students in good standing in prog or cons of instr.

540 (HMS 540) Introduction to Physical Therapy Practice. 2 cr. U/G. The learner will be exposed to the multiple roles of the physical therapist as a professional. Prereq: Grad student status & enrollment in the Doctor of Physical Therapy Prog. Students in good standing in prog or cons of instr.

541 (HMS 541) Clinical Foundations of the Physical Therapy Examination. 5 cr. U/G. A course designed to instruct the student on techniques to examine patients/clients. Prereq: Grad student status & enrollment in the Doctor of Physical Therapy Prog. Students in good standing in prog or cons of instr.

542 (HMS 542) Physical Agents. 3 cr. U/G. This course provides an understanding of the physiological basis, scientific rationale for, & clinical application of: thermal, electrophysiology/ electrotherapy & electromagnetic physical agents. Prereq: Grad student status & enrollment in the Doctor of Physical Therapy Prog. Students in good standing in prog or cons of instr.

553 (HMS 553) Medical Physiology. 4 cr. U/G. Emphasis upon physiological principles related to rehabilitation in physical therapy practice setting & interaction of physiological systems during normal activities & after injury or disease. Prereq: Grad student status & enrollment in the Doctor of Physical Therapy Prog. Students in good standing in prog or cons of instr.

565 (HMS 565) Motor Behavior. 2 cr. U/G. This course will provide a theoretical & research evidence basis for normal & disordered movement via motor control, motor learning, & motor development literature. Prereq: Grad student status & enrollment in the Doctor of Physical Therapy Prog. Students in good standing in prog or cons of instr.

566 (HMS 566) Functional Neuroanatomy. 3 cr. U/G. This course will introduce the student to the anatomical basis of neuroscience in physical therapy. Prereq: Grad student status & enrollment in the Doctor of Physical Therapy Prog. Students in good standing in prog or cons of instr.

635 (HMS 635) Pathophysiology. 2 cr. U/G. This course will provide the student with information about the general inflammatory & specific pathologies of the various organ systems. Prereq: Grad student status & enrollment in the Doctor of Physical Therapy Prog. Students in good standing in prog or cons of instr.

640 (HMS 640) Scientific Principles of Interventions. 5 cr. U/G. This course teaches the basic therapeutic interventions used to treat impairments and functional limitations in the different biological systems that lead to movement dysfunction. Prereq: Grad student status & enrollment in the Doctor of Physical Therapy Prog. Students in good standing in prog or cons of instr.

641 (HMS 641) Cardiopulmonary Evaluation & Treatment. 3 cr. U/G. This course focuses on normal & abnormal structure & function of the cardiovascular, pulmonary & lymphatic systems with emphasis on medical & other therapeutic strategies. Prereq: Grad student status & enrollment in the Doctor of Physical Therapy Prog. Students in good standing in prog or cons of instr.

642 (HMS 642) Professionalism and the Ethos of Care. 3 cr. U/G. Students will explore ethics of professional practice, fiduciary relationships, rights, duties associated with the patient/therapist relationship & the role character plays in ethical decision-making. Prereq: Grad student status & enrollment in the Doctor of Physical Therapy Prog. Students in good standing in prog or cons of instr.

680 (HMS 680) Clinical Fieldwork I. 1 cr. U/G. The student will be assigned to a clinically based learning experience with an emphasis on practicing recently learned clinical skills on a patient population. Prereq: Grad student status & enrollment in the Doctor of Physical Therapy Prog. Students in good standing in prog or cons of instr.

705 (HMS 705) Foundations of Clinical Research. 2 cr. G. Research methodology with an emphasis on clinical research is the focus of this course. Prereq: Grad student status & enrollment in the Doctor of Physical Therapy Prog. Students in good standing in prog or cons of instr.

713 (HMS 713) Professional Issues Seminar. 1 cr. G. Explores strategies for growth and adaptation of physical therapy practice in the context of a changing health care environment. Prereq: Valid license to practice physical therapy or cons of instr.

714 (HMS 714) Evidence for Practice I. 3 cr. G. Provides clinicians with a rubric for searching and evaluating the published literature supporting physical therapy practice and informing best practice decisions. Prereq: Valid license to practice physical therapy or cons of instr.

715 (HMS 715) Evidence for Practice II. 3 cr. G. This course synthesizes prior coursework in the development and presentation of a clinical practice decision supported with best evidence practices. Students may re-enroll in this course for up to 6 credits. Prereq: Valid license to practice physical therapy.

716 (HMS 716) Seminar: The Culture of Evidence. 1 cr. G. Overview of the role of evidence in physical therapy clinical decision making with application to current interventions. Prereq: Valid license to practice physical therapy or cons of instr.

718 (HMS 718) Clinical Radiology. 2 cr. G. Overview of medical diagnostics emphasizing indications and implications for imaging studies used to augment information obtained from the physical therapy examination. Prereq: Valid license to practice physical therapy or cons of instr.

743 (HMS 743) Health Systems Review. 2 cr. G. Provides systems overview of screening procedures necessary to provide a comprehensive physical therapy diagnosis with an emphasis on screening for referral. Prereq: Valid license to practice physical therapy or cons of instr.

745 (HMS 745) Health Promotion/Wellness for Physical Therapy Practice. 3 cr. G. Explores epidemiology, risk factors, health behavior, preventive screening, principles and application of the principles to a healthy population and populations with unique needs. Prereq: Valid license to practice physical therapy or cons of instr.

PHYSICS

- Phone: (414) 229-4474
- Fax: (414) 229-5589
- E-mail: wyatto@uwm.edu

School/College: College of Letters and Science

Degrees Conferred:

- MS in Physics
- PhD in Physics

Overview

The Physics Department is a young department with exceptional strength in several areas. We invite applications from able students interested in experimental and theoretical surface physics and condensed matter physics; in experimental modern optics; in quantum gravity, quantum field theory, cosmology, and relativistic astrophysics; and in physics teaching at a high-school or college level. The primary goal of our graduate education is the training of creative research scientists.

Our research in gravitational physics is in several areas: In gravitational-wave astronomy, we play a leading role in the development for LIGO of templates to extract signals of gravitational-waves from the coalescence of binary neutron stars and from the stochastic background. In early cosmology, recent work includes renormalization methods to investigate inflationary models. In the quantum arena, work involves black-hole evaporation and information loss, and quantization of microscopic topological structures. In relativistic astrophysics we have established limits on the spin and mass of rotating neutron stars. Work in nuclear physics and particle physics includes a study incorporating gluon exchange and quark confining interactions into relativistic bound-state equations, and a study of production mechanisms for the Higgs boson and related intermediate mass bosons.

Research in theoretical physics also includes work in graph theory, fiber bundles, homotopy classes of diffeomorphisms, the quantum theory of measurement and black-hole entropy and information loss. Theoretical work in nonlinear dynamics and chaos concerns maps approximating dynamical systems.

Research in surface physics includes experimental work in electron microscopy, electron holography, electron diffraction, scanning tunneling microscopy and spectroscopy, atomic force microscopy, infrared spectroscopy, synchrotron radiation, and molecular beam epitaxy.

Theoretical work in surface physics focuses on the structure and dynamics of surfaces and interfaces. The theory groups have developed quantum mechanical multiple scattering theories for electron and positron diffraction, photoelectron diffraction, high-resolution electron-energy-loss spectroscopy, x-ray diffraction, and electron holography.

Experimental work in condensed matter physics is also being done in the areas of low-temperature physics, unconventional superconductivity (including high Tc), heavy fermions, materials synthesis and floating zone single crystal growth, oxides, magnetism, ultrasonics, and neutron diffraction. Theoretical work in condensed matter physics also includes research in quantum transport phenomena and electromigration in mesoscopic systems, and superconductivity.

Experimental work in modern optics is being done with ultrafast lasers to study the dynamics of physical, chemical, and biological systems on the molecular and cellular level.

Graduate Minor in Physics

A doctoral student in another department wishing to minor in Physics must choose a minor professor from among the Physics Graduate Faculty. The student and the minor professor plan a program of study consisting of 9 to 12 graduate credits in Physics and complete a Graduate Minor Program Plan for the Physics Department files.

Graduate Faculty

Distinguished Professors
- Friedman, John, Ph.D., University of Chicago
- Parker, Leonard E., Ph.D., Harvard University
- Weinert, Michael, Ph.D., Northwestern University

Professors
- Agterberg, Daniel, Ph.D., University of Toronto, Canada
- Brady, Patrick, Ph.D., University of Alberta
- Gajdardziska-Josifovska, Marija, Ph.D., Arizona State University
- Hirschmugl, Carol J., Ph.D., Yale University
- Li, Lian, Ph.D., Arizona State University
- Lyman, Paul F., Ph.D., University of Pennsylvania
- Ourmazd, Abbas, D.Phil., Wolfson College, Oxford University
- Saldin, Dilano, Ph.D., Oxford University, England, Chair
- Sarma, Bimal, Ph.D., Northwestern University
- Sorbello, Richard S., Ph.D., Stanford University
- Yakovlev, Vladislav V., Ph.D., Moscow State University

Associate Professors
- Creighton, Jolien, Ph.D., University of Waterloo
- Guptasarma, Prasenjit, Ph.D., University of Bombay, India
- Patch, Sarah, Ph.D., University of California-Berkeley
- Wiseman, Alan, Ph.D., Washington University

Assistant Professors
- Anchordoqui, Luis, Ph.D., Universidad Nacional La Plata, Agentina
- Raicu, Valerica, Ph.D., University of Bucharest, Romania
- Schmidt, Marius, Dr. rer. nat., Technical University of Munich
- Siemens, Xavier, Ph.D., Tufts University

Master of Science in Physics

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

1. Letters of Recommendation. Three letters of recommendation are required from persons familiar with the applicant's academic work.
2. Graduate Record Examinations. Both the General Test and the Subject Test in Physics are strongly encouraged (but not required).
3. Undergraduate major in physics or related fields. Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The newly admitted student is assigned to a temporary advisor.

Students in the master's program who are planning to terminate their physics studies with a master's degree should plan and prepare a program of study with the Department Master's Program Advisor.

Option 1: Thesis Option

Credits and Courses

Minimum degree requirement is 24 graduate credits, 18 of which must normally be in physics and 6 of which may be in related fields. Of the 18 credits earned in the Department, at least 6 must be in physics courses numbered above 700, with the remainder in courses at least above 500; research, seminar and independent credits do not satisfy the 700

requirement. Six credits are earned through the thesis.

Thesis

The student must write an acceptable thesis.

Comprehensive Examination

The student must pass a comprehensive oral examination, in part a defense of the thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Option 2: Non-thesis Option

Credits and Courses

Minimum degree requirement is 24 graduate credits, 18 of which must normally be in physics and 6 of which may be in related fields. Of the 18 credits earned in the Department, at least 6 must be in physics courses numbered above 700, with the remainder in courses at least above 500; research, seminar and independent credits do not satisfy the 700 requirement.

Thesis

Not required.

Comprehensive Examination

The student must pass a comprehensive written or oral examination. The non-thesis master's Oral Examination should evaluate the student's achievements in graduate courses and fulfillment of the goals of the student's program of study. In particular, students should be familiar with the materials in the "core" courses (Physics 515, 531, 532, 711 and 720).

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Physics

Admission

Applicant must meet Graduate School requirements plus departmental requirements as given for admission to the master's program. A master's degree is not a prerequisite for this PhD program.

Reapplication

A student who receives the master's degree must formally reapply for admission to the Graduate School before continuing studies toward the PhD.

Course of Study

Minimum degree requirement is 54 graduate credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM. The student plans an individual program of studies in consultation with the major professor. Coursework must include a minimum of 12 credits in physics graduate courses in the 700-999 levels (not including 711, 720, 721, or 990). A student may elect to complete one of the following minor programs: a minor of 9 to 12 credits in a single department; a minor of 12 credits In two or more departments. Traditional fields for the minor are mathematics, other natural sciences, computer sciences and engineering. In planning a minor in a single department, the student is advised by the minor professor; in planning a minor in two or more departments, the student is advised by the major professor. The program of study is to be chosen with the major professor and the departmental academic graduate committee.

Residence

The student must meet minimum Graduate School residence requirements.

Written Qualifying Examination

Prior to taking the oral doctoral preliminary examination, the student must pass a written qualifying examination which evaluates the student's general background in graduate level physics. This examination is based on subject matter at least as advanced as the material covered by the non-thesis master's comprehensive examination. A student may not continue in the physics graduate program after 4.5 years without having passed this examination.

Doctoral Preliminary Examination and Doctoral Proposal Hearing

The student must prepare a written proposal and pass an oral examination to qualify for formal admission to candidacy for the degree. The oral examination primarily seeks to determine the student's preparation for independent research and the suitability of the proposed dissertation program. This examination shall be taken no later than four semesters after passing the written qualifying examination. However, no student will be required to take the oral examination earlier than the sixth semester of graduate work at UWM.

Dissertation

The candidate must present a dissertation reporting the results of an original and independent research investigation representing substantive creative contribution.

Dissertation Defense

The candidate must, as the final step toward the degree, pass an oral examination in defense of the dissertation.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

For additional information on the PhD, see the Graduate School Doctoral Requirements page.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

408 Experiments in Linear Electronics. 3 cr. U/G.
Transistor and integrated circuit characteristics; electronic measurement and control. No cr for students w/cr in ElecEng 330(R). Prereq: jr st; Physics 210(P).

410 Optics Laboratory. 3 cr. U/G.
Selected experiments in optics. Prereq: jr st; Physics 325(C).

411 Mechanics. 4 cr. U/G.
Kinematics, vector analysis, conservation laws, oscillations, variational methods, chaos, Lagrangian and Hamiltonian mechanics. Prereq: jr st; Physics 210(NP).

420 Electricity and Magnetism I. 3 cr. U/G.
Electrostatics, capacitance, boundary value problems, mulipole expansion, dielectrics, magnetostatics, vector potential, magnetic properties of matter, motional emf, inductance, Maxwell's equations in differential form. Counts as repeat of 2 cr of Physics 421. Prereq: jr st, Physics 210(NP), Math 321(P); or grad st.

422 Electricity and Magnetism II. 3 cr. U/G.
Conservation laws in electrodynamics, Maxwell's stress tensor, electromagnetic waves, absorption, dispersion, reflection and transmission of plane electromagnetic waves, wave guides, retarded potentials, radiation, electrodynamics and relativity. Counts as repeat of 2 cr of Physics 421. Prereq: jr st, Physics 420(P); or grad st.

440 (340) Modern Physics for Teachers. 3 cr. U/G.
Introductory concepts of special relativity, wave-particle duality, the Bohr atom and quantum mechanics with applications to single electron and multi-electron atoms; related laboratory work. Enrollment limited to certified sci or math teachers with a valid and active teaching contract with a high school district who have been accepted in UWM RET prog. Prereq: jr st; Physics 210(P) or equiv.

441 Introduction to Quantum Mechanics I. 4 cr. U/G.
Historical background and experimental basis, De Broglie waves, correspondence

principle, uncertainty principle, Schroedinger equation; hydrogen atom, electron spin, Pauli Principle, applications of wave mechanics. Prereq: jr st; Physics 309(NP); Math 321(C).

442 Introduction to Quantum Mechanics II. 3 cr. U/G.
Continuation of Physics 441, emphasizing perturbation theory and applications to multi-electron systems, including atoms, molecules, and solids. Prereq: jr st; Physics 441(NP).

463 Introduction to Atmospheric Physics. 3 cr. U/G.
Atmospheric phenomena not directly linked with the general circulation: refraction and scattering, visibility, radiation transfers, optics, aerosols and cloud particles, acoustics, radar, atmospheric electricity. Not available for grad cr at this time. Prereq: jr st; Physics 210(P), Math 232(P), or Atm Sci 350(P).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

501 Special Topics: Mathematical Models of Physical Problems I. 3 cr. U/G.
Selected topics in mathematics for study of the techniques and procedures for stating physical problems in mathematical terms and the physical interpretation of mathematical solutions. Prereq: jr st; Physics 210(P); Math 234(P).

502 Special Topics: Mathematical Models of Physical Problems II. 3 cr. U/G.
More selected topics in mathematical models. Prereq: jr st; Physics 210(P); Math 234(P). Physics 501(R).

515 Statistical Mechanics. 3 cr. U/G.
Brief survey of thermodynamics; statistical mechanics; classical and quantum gases. Prereq: jr st; Physics 317(P) & 441(P).

517 Special Relativity. 3 cr. U/G.
Relativistic kinematics, the Lorentz transformation, tensor calculus, applications to motion of particles, electromagnetism. Prereq: jr st; Physics 411(R) & 421(R).

531 Principles of Quantum Mechanics I. 3 cr. U/G.
Vector and Hilbert spaces; Schroedinger equation in 1, 2, and 3 dimensions; systems of many particles; symmetries; angular momentum. Prereq: jr st; Physics 441(P).

532 Principles of Quantum Mechanics II. 3 cr. U/G.
Continuation of 531. Spin; hydrogen atom; variational methods; WKB approximation; perturbation theory; scattering theory; Dirac equation. Prereq: jr st; Physics 531(P).

541 Elementary Particles. 3 cr. U/G.
Accelerators and detectors; special unitary groups; quark model of hadrons; Feynman diagrams; electromagnetic, weak and strong interactions of quarks and leptons; Higgs boson. Prereq: jr st; Physics 441(P).

551 Introduction to Solid State Physics I. 3 cr. U/G.
Crystal structure, reciprocal lattice; crystal binding; elastic waves; phonons, lattice vibrations; thermal properties of insulators; free electron Fermi gas. Band structure; semiconductor crystals; Fermi surface. Prereq: jr st; Physics 441(P) or cons instr.

575 Vacuum Science and Technology. 3 cr. U/G.
Viscous and molecular flow, vacuum materials and seals, metal-to-ceramic seals, evaporation and vapor pressures, vacuum pumps, vacuum gauges, mass spectrographs, chemical reactions at surfaces, outgassing. Prereq: jr st; Physics 441(P).

610 The Art and Science of Teaching Physics. 1 cr. U/G.
Participants critique lectures, videotapes of experienced teachers, each other; address conceptual problems facing beginning students; gain familiarity with demonstrations, classroom technology; discuss their own classes. Prereq: appt as undergrad TA or grad st.

651 Introduction to Solid State Physics II. 3 cr. U/G.
Transport, superconductivity, dielectric properties, ferroelectric crystals, magnetism, magnetic resonance, optical phenomena in insulators, nanostructures, non-crystalline solids, point defects, alloys, dislocations. Prereq: jr st; Physics 551(P).

670 Electron Microscopy Laboratory. 3 cr. U/G.
Diffraction, imaging, and spectroscopy methods for study of morphology, crystallinity, and composition of solids in a transmission electron microscope. Prereq: sr st; Physics 551(P) or cons instr.

698 Research Experience for Teachers. 1-6 cr. U/G.
Enrichment of students' physics background. Work with faculty mentor to develop an innovative teaching program for use in students' own classroom. Open only to practicing science teachers with demonstrable expertise in physics. May be retaken to 9 cr max. Prereq: sr st; current teaching contract.

705 Molecular, Cellular, and System Biophysics. 3 cr. G.
Cell structure and the molecular basis for life. Molecular and cellular interactions. Supracellular organization, signalling, and communication. Self-similarity and cooperativity. Prereq: grad st

706 Biophotonics. 3 cr. G.
Biophotonics and bioimaging; overview of application of optics in biology and medicine based on the understanding of basic optics, spectroscopy, and imaging theory. Prereq: grad st

711 Theoretical Physics-Dynamics. 3 cr. G.
Lagrange equations, canonical formulation, principle of least action, normal coordinates, rigid bodies, special relativity, mathematical methods. Prereq: grad st; Math 321(C) or 322(C); or 701(C) or 702(C).

716 Advanced Topics in Statistical Physics. 3 cr. G.
Systems of interactir particles; critical phenomena; transport theory; irreversible processes and fluctuations; model calculations for interacting systems of particles. Prereq: Physics 515(P), 532(P).

717 Gravitation. 3 cr. G.
General theory of relativity. Metric, covariant derivative, and curvature. Einstein field equations. Newtonian and weak-field limits. Gravitational waves. Experimental tests. Black holes and relativistic stars. Prereq: grad st; Physics 517(P).

718 White Dwarfs, Neutron Stars, and Black Holes. 3 cr. G.
Physics of compact objects; newtonian and relativistic stellar structure and stability; pulsars, x-ray sources; accretion disks; gravitational collapse; stellar-size and supermassive black holes; quasars. Prereq: grad st; Physics 717(P) or cons instr.

720 Electrodynamics I. 3 cr. G.
Maxwell's equations; Helmholz theorem; scalar and vector potentials; boundary value problems; plane wave solutions. Prereq: grad st; Physics 428(P) & 711(P).

721 Electrodynamics II. 3 cr. G.
Wave guides, radiation by charges; radiation reaction; radiation scattering, damping and dispersion; covariant formulation of electrodynamics. Prereq: grad st; Physics 720(P).

731 Quantum Mechanics. 3 cr. G.
Mathematical formalism of quantum mechanics. Obserables and transformation theory, scattering perturbation, other approximation methods. Prereq: grad st; Physics 532(P) & 711(P).

732 Quantum Mechanics. 3 cr. G.
Continuation of 731 including symmetry properties, relativistic quantum mechanics, introduction to the theory of quantized fields. Prereq: grad st & Physics 731(P).

751 Solid State Theory I. 3 cr. G.
Phonons, plasmons, magnons, fermion fields and the hartree-fock approximation, and electron many-body techniques and the electron gas. Prereq: grad st; Physics 531(P) & Physics 651(P).

752 Solid State Theory II. 3 cr. G.
Dynamics of electrons in a magnetic field: energy bands, cyclotron resonance, impurity states, optical absorption and excitons in semiconductor crystals; electrodynamics of metals; green's

functions. Prereq: grad st & Physics 532(P) & 751(P).

770 Electron Microscopy. 3 cr. G.
Kinematical and dynamical theory of electron diffraction. Transfer function theory of imaging. Electron and x-ray spectroscopies. Applications to surfaces and interfaces. Prereq: grad st; Physics 551(P) or cons instr.

775 Surface Physics I. 3 cr. G.
Survey of experimental techniques in surface physics research. Prereq: grad st; Physics 515(P) & 575(P).

776 Surface Physics II. 3 cr. G.
Survey of theoretical approaches in surface physics research. Prereq: grad st; Physics 775(P) or cons instr.

781 Medical Radiation Physics. 3 cr. G.
Physical principles of the generation, interaction, detection, and measurement of radiation in medical applications; basics of radiation protection. Prereq: grad st

782 Physics of Medical Imaging. 3 cr. G.
Basic theoretical knowledge of the physics of diagnostic radiology using x-rays, magnetic resonance, nuclear medicine, and ultrasounds. Prereq: grad st

784 Radiotherapy Physics. 3 cr. G.
Radiation physics for work as a hospital physicist, including accelerators for radiation therapy, quality characteristics of treatment beams, treatment planning, treatment techniques, quality assurance, oncology. Prereq: grad st

786 Medical Physics Practicum. 3 cr. G.
Training with clinical medical imaging and therapy equipment, and dosimetry instrumentation. Prereq: grad st; Physics 781(P)

801 Special Topics in Theoretical Physics: (Subtitled). 2-3 cr. G.
Discussion of recent research or advanced special topics. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons instr.

807 Group Theory and Its Applications to Physics. 3 cr. G.
Representations of discrete and continuous groups, including rotation groups, unitary groups and crystal point and space groups. Symmetries of elementary particles. Molecular obitals, energy bands. Counts as repeat of Math 807. Prereq: grad st; Physics 532(P).

811 Nonlinear Dynamics and Chaos. 3 cr. G.
Iteration of maps, numerical integration, strange attractors in dissipative systems, fractal dimensions, multifractals, entropy. Chaos in hamiltonian systems, perturbation theory, kam theorem. Quantum choas. Prereq: grad st; Physics 711(P).

817 Gravitation and Cosmology II. 3 cr. G.
Experimental tests in gravitation. Gravitational waves: generation, detection. Spinning black holes. Cosmology: idealised cosmologies; present state of the universe; nucleosynthesis; inflation; recent developments. Prereq: grad st; Physics 717(P) or cons instr.

818 Advanced Topics in Gravitational Physics. 3 cr. G.
Topics depend on student interest. Initial value problem. Spinors and positive mass. Singularity theorems. Modern kaluza-klein theory. Approaches to quantum gravity. Prereq: grad st; Physics 717(P).

831 Quantum Field Theory I. 3 cr. G.
Group theory, canonical and path integral quantization, feynman rules, quantum electrodynamics, renormalization, quantum chromodynamics, electroweak theory, spontaneous symmetry breaking. Prereq: grad st; Physics 732(P).

832 Quantum Field Theory II. 3 cr. G.
Renormalization of gauge theories, grand unified theories, topological objects, kaluza-klein theories, supersymmetry, supergravity, superstring theory. Prereq: grad st; Physics 831(P).

851 Experimental Techniques in Low Temperature Physics. 3 cr. G.
A survey of cooling techniques and temperature measurements at low temperatures. Prereq: grad st; cons instr.

852 Superconductivity. 3 cr. G.
Properties of type I and type II superconductors, bcs and ginzburg-landau theory, vortices, and flux dynamics. Prereq: grad st; Physics 532(P) & 651(P).

853 Superfluidity. 3 cr. G.
Bose-Einstein condensation. Properties of superfluid 4HE, 3HE and 3HE-4HE mixtures. Prereq: grad st; Physics 551(P) & 651(P) or physics 515(P).

854 Electron Phonon Interaction. 3 cr. G.
Wave propagation in metals. Interaction of electrons with the lattice in normal metals, superconductors, and magnetic materials. Prereq: grad st; Physics 532(P) & 651(P).

900 Colloquium. 1 cr. G.
Lectures by staff and visitors on research in various areas of physics. Prereq: grad st.

903 Seminar in Theoretical Physics: (Subtitled). 1-3 cr. G.
Discussion of special topics of interest to research students in theoretical physics. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons instr.

904 Seminar in Surface Studies: (Subtitled). 1-3 cr. G.
Special topics in the chemistry and physics of surface studies. Specific topics and any additional prerequisites announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

905 Seminar in Solid State Physics: (Subtitled). 1-3 cr. G.
Special topics in electron phonon interaction. Retakable w/chg in topic to 9 cr max. Prereq: grad st; Physics 551(P).

990 Research. 1-9 cr. G.
- Prereq: grad st & cons instr.

999 Independent Reading. 1-3 cr. G.
For the benefit of graduate students unable to secure needed content in regular courses. Prereq: grad st, cons instr.

POLITICAL SCIENCE

- Phone: (414) 229-4221
- Fax: (414) 229-5021
- E-mail:jbohte@uwm.edu

School/College: College of Letters and Science

Degrees Conferred:

- MA in Political Science
- PhD in Political Science

Overview

The Department of Political Science offers graduate programs of study in political science with concentrations in five fields: American politics; comparative politics; international relations; political theory; and public administration and public policy.

The master's program is designed to provide students with a basic grounding in the scope and methodology of the discipline, while at the same time allowing maximum flexibility in developing a program of study that will meet students' career objectives. It is recommended that students preparing themselves for PhD work emphasize empirical theory, quantitative skills and strategies and techniques of conducting research. Students may select coursework to help them prepare for such career fields as governmental service, public and private education, community service, and private industry. In developing an appropriate and coherent program of study, each graduate student works closely with the major professor and committee of advisors.

The Department accommodates the master's student who attends part time by scheduling sufficient graduate-level courses in the late afternoons and evenings to enable the student to earn a master's degree through part-time attendance.

In the PhD program the departmental emphasis is on conceptual and quantitative work. The Department requires that the student be broadly trained and accordingly encourages each student to take advantage of offerings in related disciplines to strengthen expertise in political change. The graduate of the program is qualified for a career in university teaching, in government service or in the private sector where the analytical skills and knowledge of the social scientist are required.

Graduate degrees are conferred on the basis of a level of achievement which is acquired by independent reading and research as well as by taking courses. They are never conferred solely on the basis of prescribed courses and residency requirements.

Graduate Faculty

Professors

Dolan, Kathleen, Ph.D., University of Maryland-College Park
Ethridge, Marcus E., Ph.D., Vanderbilt University, Chair
Heo, Uk, Ph.D., Texas A&M University
Holbrook, Thomas, Ph.D., University of Iowa
Horowitz, Shale, Ph.D., University of California - Los Angeles
Lee, Mordecai, Ph.D., Syracuse University
Percy, Stephen L., Ph.D., Indiana University
Pienkos, Donald, Ph.D., University of Wisconsin-Madison

Associate Professors

Benesh, Sara C., Ph.D., Michigan State University
Bohte, John, Ph.D., Texas A&M University
Ihrke, Douglas, Ph.D., Northern Illinois University
Meckstroth, Theodore, Ph.D., University of Minnesota
Rast, Joel, Ph.D., University of Oregon
Redd, Steven B., Ph.D., Texas A&M University

Assistant Professors

Kaheny, Erin, Ph.D., University of South Carolina
Smith, Jennifer K., Ph.D., Yale University
Sugiyama, Natasha, Ph.D., University of Texas-Austin
Tofias, Michael, Ph.D., Duke University

Master of Arts in Political Science

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

1. Undergraduate major or substantial work in the field of political science.
2. Undergraduate grade point average of at least 3.0 (4.0 scale).
3. Three letters of recommendation from persons familiar with applicant's scholastic ability and achievements.
4. Submission of Graduate Record Examination scores. Applications will not be considered until scores are received.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The incoming student is advised by the chair of the departmental Graduate Committee; as the student develops specialized interests within the discipline, the student selects a major professor from within that area of specialization.

Credits and Courses

Minimum degree requirement is 24 graduate credits, 18 of which must be in political science and 6 of which may be in related fields; 18 credit hours of coursework must be taken at the 700 level or above. The Graduate Committee of the Department will consider requests that individual students' programs contain fewer credits at the 700 level or above.

All students will take three courses dealing with the scope and method of political inquiry.

- Pol Sci 700 should be taken during the first semester.
- Pol Sci 701 should be taken during the first semester.
- Pol Sci 702 should be taken during the second semester.

Master's Paper

A formal thesis is not required. However, each student shall prepare and defend orally a paper which demonstrates conceptual ability and research competence in some recognized area (sub-field) of political science. It is expected that the master's paper will be prepared in a scholarly fashion, normally conforming to the format characteristic of journal articles published in the chosen area of study. A statement setting forth additional guidelines and criteria of evaluation will be made available.

For full-time students it is expected that the master's paper will be successfully defended prior to the completion of three semesters of graduate work. Consequently, the Department encourages students to choose paper topics for graduate seminars which may serve as the basis for the master's paper. Postponement of the oral defense of the master's paper beyond three semesters requires the approval of the Graduate Committee.

Comprehensive Examination

An oral defense of the master's paper is required. Master's papers will be defended orally before a three-person committee composed of one of the student's advisors and two other faculty members selected by the chair of the Department in consultation with the student and the advisor.

The committee will be selected at least one full semester prior to anticipated submission of the master's paper. The student must obtain committee approval of the research topic and methodology immediately following the selection of the committee.

A student may enroll for 3 credit hours of independent study for final preparation of the paper, subject to the approval of the Master's Committee.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Political Science

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

1. Master's degree in political science.
2. Evidence of a high standard of achievement in graduate work at the master's level.
3. Submission of Graduate Record Examination scores, except for applicants receiving a MA degree from UWM.

In some instances where the applicant's record demonstrates exceptional promise, the Department will consider applications for admission to the PhD program directly from the BA degree. Such admission does not constitute a waiver of any of the requirements indicated below.

All applicants for admission to the PhD program will be evaluated on the basis of their prior academic record, scores on the Graduate Record Examination, and three letters of recommendation.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The incoming student is advised by the chair of the departmental Graduate Committee; as that student develops specialized interests within the discipline, the student selects a major professor from within that area of specialization.

Course of Study

Minimum degree requirement is 54 graduate credits beyond the bachelor's degree, 27 of which must be earned in residence at UWM at the doctoral level.

Areas of Concentration

In consultation with the major professor students plan a program of studies through which a high level of competence is gained in two substantive fields (hereafter referred to as "major" or "prelim" fields). The department offers five fields of study:

- American Politics
- Comparative Politics
- International Relations
- Political Theory
- Public Administration and Public Policy

Competence in these fields is demonstrated by a written and oral preliminary examination. In addition to the fields listed above, students may petition the graduate committee to be examined in an alternative field. This must be a coherent field that is not covered by one of the existing prelim areas.

Distribution Requirement

To ensure broad exposure to the discipline, students must take a minimum of three courses outside of their prelim fields, at least two of which must be in a single field. Courses used to satisfy this requirement must be taken from the departmental offerings in the five substantive fields described above. Courses that bridge two or more fields of study cannot be used to satisfy this requirement if one of those fields falls within a student's prelim areas.

The major portion of work should be in political science courses numbered 700 or above. If approved by the Graduate Committee, a limited number of 300-699 level courses may also be included, although this is normally permitted only if necessary to overcome some deficiency in the student's prior preparation.

Core Research Requirements

Attainment of the PhD denotes a high level of competence in research skills relevant to the discipline of political science. Thus, all students must complete the core departmental research seminars Political Science 700, 701, and 702. Since skills learned in these courses are important elements in dealing successfully with subject matter presented in other seminars, students should enroll in these seminars immediately upon entering the graduate program.

Students must earn at least three additional credits in research methodology from courses offered by the Department of Political Science or other departments. Students using a course from outside the Department of Political Science to satisfy this requirement may enroll on a "Credit/No Credit" basis, where the grade of "Credit" demonstrates satisfactory completion of the requirement. Upon successful petition to the departmental Graduate Committee, a student may gain exemption from this requirement, based on course work completed in the five years prior to entering the graduate program. Students who receive this exemption must still complete at least 27 credits in residence. Credits earned to meet the research requirement may count toward the 54 credits of work required for the PhD if they carry graduate credit and are taken for a grade.

In some cases, competence in foreign language skills is necessary for significant disciplinary research. Students may fulfill the research requirements, beyond Political Science 700, 701, and 702 through demonstration of a reading knowledge of one foreign language. Competence is established through examination, by an appropriate UWM language department. The student must perform at a level equivalent to six semesters of college-level work in the language.

Evaluation of Student Progress

The Department annually evaluates the progress of each student, in order to identify areas of strength and weakness as an aid to the student and the student's major professor in planning the program of study. This evaluation is also used to determine whether or not the student should be encouraged to pursue further graduate work.

Residence

The student must meet minimum Graduate School residence requirements.

Doctoral Preliminary Examination

The student must pass a doctoral written and oral preliminary examination covering both of his or her fields of study. The preliminary exam is taken during the semester following the completion of coursework.

Dissertation

The candidate, working under the supervision of the major professor and the candidate's dissertation committee, must write an acceptable dissertation. A dissertation prospectus must be written during the last semester of coursework and will be defended at the end of the following semester as part of the preliminary examination. Guidelines for preparation of the dissertation are available from the Graduate School.

Dissertation Defense

The candidate must, as a final step toward the degree, pass an oral examination in defense of the dissertation. The candidate who does not successfully defend a thesis within five years of admission to candidacy may be required to take another comprehensive preliminary examination and be readmitted to candidacy.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

For additional information on the PhD, see the Graduate School Doctoral Requirements page.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

300 Western European Politics. 3 cr. U/G. Survey of Western European nations emphasizing governing structures and processes, socio-cultural integrative and

disintegrative processes, and national responses to problems of economic and political unity. Comparative politics course. Prereq: jr st.

302 Politics of Eastern Europe. 3 cr. U/G.
Evolution of modern nation-state systems in Eastern Europe; interactions among nationalism, communism, and democracy in the countries of the region since 1945. Comparative politics course. Prereq: jr st.

310 Politics of the Soviet Union and Its Successor States. 3 cr. U/G.
Changing Russian and Soviet political and governmental institutions in the 20th century; autocracy, centralization and conformity versus democracy; autonomy and pluralism as issues confronting the system. Comparative politics course. Prereq: jr st.

316 International Law. 3 cr. U/G.
Rules and principles of behavior which govern nations in their relations with one another, as illustrated in texts and cases. International politics course. Prereq: jr st.

320 Politics of Developing Countries. 3 cr. U/G.
Comparative analysis of political problems confronting developing countries. Comparative politics course. Prereq: jr st.

325 Latin American Politics. 3 cr. U/G.
Analysis of contemporary governments in Latin America, with particular emphasis on the social way of life, the politics of economic organization and government in action. Comparative politics course. Prereq: jr st.

327 Politics of the Middle East and North Africa. 3 cr. U/G.
Analysis of political processes in Middle East and Arabic-speaking North Africa, with reference to problems of nationalism, nation-building, modernization and the Arab-Israeli conflict. Comparative politics course. Prereq: jr st.

328 The Arab-Israeli Conflict. 3 cr. U/G.
Competing views about the Arab-Israeli conflict, especially its Palestinian dimension. History and evolution of the conflict; current issues and possible solutions. Comparative politics course. Prereq: jr st.

329 African Politics. 3 cr. U/G.
The process of political change in contemporary Africa, with emphasis on the problems of nationalism and nation-building. Comparative politics course. Prereq: jr st; Pol Sci 106(R).

330 The Politics of International Economic Relations. 3 cr. U/G.
Introduction to the politics of international trade and investment in industrial, developing, and post-communist countries. International politics course. Prereq: jr st.

333 Seminar in Comparative Politics: (Subtitled). 3 cr. U/G.
Intensive study in selected aspects of comparative politics. Retakable w/chg in topic to 9 cr max. Enrollment limited to 15 students. Comparative politics course. Prereq: jr st.

334 German Politics and the New Europe. 3 cr. U/G.
Development of the two German republics after 1945; domestic and European issues of a unified Germany. Comparative politics course. Prereq: jr st.

335 Comparative Political Systems. 3 cr. U/G.
Government and politics in various Western and developing countries, stressing common experience as well as differences conditioned by diverse circumstances. Comparative politics course. Prereq: jr st.

337 International Organization and the United Nations. 3 cr. U/G.
Collective security as an approach to international peace. Emphasis on the changing nature of the United Nations, its major problems, and the current national and bloc policies by member states. International politics course. Prereq: jr st.

338 Seminar in International Relations: (Subtitled). 3 cr. U/G.
Intensive study in selected aspects of international relations. Add'l prereqs announced in Schedule of Classes each time course is offered. Retakable w/chg in topic to 6 cr max. Enrollment limited to 15 students. International politics course. Prereq: jr st.

339 European Integration. 3 cr. U/G.
Evolution of the European Union, its institutions, and key policy developments related to the single market, common currency, enlargement, and the democratic deficit. Comparative or international politics course. Prereq: jr st.

340 Politics of Nuclear Weapons. 3 cr. U/G.
Survey of nuclear war issues, including the effects of nuclear weapons, defense against nuclear attack, arms control, nuclear weapons proliferation, and nuclear ethics. International politics course. Prereq: jr st; course in pol sci or related field recom.

341 Politics and Markets in Pacific-Rim Countries: (Subtitled). 3 cr. U/G.
Introduction to the political-economic relationships among Pacific-Rim countries. Retakable w/chg in topic to 6 cr max. Comparative politics course. Prereq: jr st.

343 Asian International Relations. 3 cr. U/G.
Analysis of recent relations of the major powers in East, Southeast, and South Asia, especially the problems of the smaller states and the role of the United States. International politics course. Prereq: jr st.

346 U.S.-Latin American Relations. 3 cr. U/G.
Historic and contemporary inter-American relations, including issues such as U.S.-Cuban relations, drug trafficking, trade integration, international finance, and migration. International politics course. Prereq: jr st.

359 Problems of American Foreign Policy. 3 cr. U/G.
Analysis of problems confronting the United States in principal regions of the world, emphasizing the content and instrumentalities of recent policy, and considering alternative solutions. International politics course. Prereq: jr st.

361 History of International Political Thought. 3 cr. U/G.
History of international political thought. Statist and internationalist theories of sovereignty, war, intervention, and international law. Political theory or international politics course. Prereq: jr st.

362 Ethics and International Relations. 3 cr. U/G.
Ethical aspects of international relations, including just and unjust wars, human rights, and international distributive justice. International politics course. Prereq: jr st.

365 Theories and Methods in International Politics. 3 cr. U/G.
Empirical, theoretical, and quantitative analyses of international relations. International politics course. Prereq: jr st.

368 (effective 01/26/2009) Gender and Politics in Developing Nations. 3 cr. U/G.
Gender and politics in Latin America, East/South Asia, the Middle East, integrating works from political science, feminist theory, development studies, public health, women's studies. Counts as a repeat of Pol Sci 333 w/same subtitle. Enrollment limited to 15 students. Comparative politics course. Prereq: jr st.

370 International Conflict. 3 cr. U/G.
Theoretical and quantitative studies of international conflict and war. Includes individual, national, and systemic approaches. International politics course. Prereq: jr st.

381 The Development of Western Political Thought. 3 cr. U/G.
Political theory from the Greek era to the present. Political theory course. Prereq: jr st; grade of C or better in English 102(P) or score level 4 on EPT.

382 Modern Political Thought. 3 cr. U/G.
Liberal democracy, traditional conservatism, fascism, communism and socialism, with emphasis on the development and problems of democracy. Political theory course. Prereq: jr st.

384 (560) The Philosophy of Law. 3 cr. U/G.
The idea of law and its relationship to morality. Issues of legal obligation, rights, responsibility, and punishment. Philos 384 & Pol Sci 384 are jointly offered; they count as repeats of one another. Political theory course. Prereq: jr st; 3 cr in philos or previous course in political theory or law studies recom.

385 American Political Thought. 3 cr. U/G.
Survey of main currents of American political thought from colonial times to the

present. Political theory course. Prereq: jr st.

386 Contemporary Political Theory. 3 cr. U/G.
Survey of current work in different branches of political theory, including formal, analytical, and critical theory. Political theory course. Prereq: jr st.

387 Seminar in American Politics: (Subtitled). 3 cr. U/G.
Intensive study in selected aspects of American politics. Retakable w/chg in topic to 6 cr max. Enrollment limited to 15 students. American politics course. Prereq: jr st.

389 Politics and Philosophy: 3 cr. U/G.
Ideas and methods in recent political theory, including the history of political thought, analytical political philosophy, and critical theory. Political theory course. Retakable w/chg in topic to 6 cr max. Prereq: jr st; one course in political theory.

390 Political Data Analysis. 4 cr. U/G.
Research design, measurement, and techniques of political data analysis. Research methods course. Prereq: jr st.

392 Survey Research. 3 cr. U/G.
Theory and practice of survey techniques. Planning, design, sampling, types of data, questionnaire construction, interviewing, field operation, and coding examples in a variety of fields. Research methods course. Prereq: jr st.

405 State Government: (Subtitled). 3 cr. U/G.
Selected topics in state government and politics with special emphasis on Wisconsin. Retakable w/chg in topic to 6 cr max. American politics course. Prereq: jr st.

408 The American Presidency. 3 cr. U/G.
Study of the office and powers of the president, with an analysis of his major roles as chief administrator, legislative leader, political leader, initiator of foreign policies, Commander-in-Chief and head of state. American politics course. Prereq: jr st.

411 Constitutional Law: Government Powers and Federalism. 3 cr. U/G.
Constitutional interpretation, with emphasis on separation of powers, federalism, and property. American politics course. Prereq: jr st.

412 Constitutional Law: Civil Rights and Liberties. 3 cr. U/G.
Cases in civil rights and liberties in such areas as equal protection, due process, and First Amendment freedoms. American politics course. Prereq: jr st.

413 Governing Metropolitan Areas. 3 cr. U/G.
Issues in governing cities and suburbs, including finances and intergovernmental relations. American politics course. Prereq: jr st.

416 Trial Courts in the Judicial Process. 3 cr. U/G.
Study of trial courts and the interaction of trial judges with lawyers, police, litigants, jurors, politicians, and the public, with emphasis on large urban courts. American politics course. Prereq: jr st.

417 The Supreme Court. 3 cr. U/G.
Behavior of U.S. Supreme Court justices and other appellate judges and courts within the judicial and political systems. American politics course. Prereq: jr st.

421 Party Politics in America. 3 cr. U/G.
The role of political parties in the nominating process, campaigns, fund raising, voter choice, and the governing processes of Congress and the presidency. American politics course. Prereq: jr st; Pol Sci 103(P) or 104(P).

423 Conduct of American Foreign Affairs. 3 cr. U/G.
Descriptive analysis of the way American foreign policy is formulated and carried out by federal agencies. International Politics course. Prereq: jr st.

426 Congressional Politics. 3 cr. U/G.
The role of Congress in shaping public policy, with emphasis on the impact of elections, lawmaking procedures, congressional committees, political parties, interest groups, and presidents. American politics course. Prereq: jr st.

444 Politics and the Bureaucracy. 3 cr. U/G.
The role of the bureaucracy in policymaking. Political resources of bureaucracy, its ability to influence policy outcomes. Political controls on bureaucracy, and proposals for reform. American politics course. Prereq: jr st.

450 Urban Political Problems. 3 cr. U/G.
Reading and analysis of specific urban problems and governmental responses. American politics course. Prereq: jr st.

452 Administrative Law. 3 cr. U/G.
An examination of due process, privacy, and other constitutional and legal issues as they arise in the regulatory, investigatory, and enforcement activities of administrative agencies. American politics course. Prereq: jr st.

464 (220) Women and the Law. 3 cr. U/G.
Topics in federal and state law pertaining to women, gender, and feminism, such as reproductive rights, domestic violence, and pay equity. American politics course. Prereq: jr st.

467 Elections and Voting Behavior. 3 cr. U/G.
Psychological and social components of voting behavior, current electoral trends, and role of voters in the governing process. American politics course. Prereq: jr st.

470 Public Personnel Administration. 3 cr. U/G.
Analysis of the problems encountered in personnel administration in the public sector, including recruitment, testing, merit, affirmative action, promotion, and discipline. American politics course. Prereq: jr st.

471 Problems in Law Studies: (Subtitled). 3 cr. U/G.
Discussion of selected problems in contemporary law and politics, such as civil rights movements or law and sexuality. Retakable w/chg in topic to 6 cr max. American politics course. Prereq: jr st.

630 Budgeting and Finance in the Public Sector. 3 cr. U/G.
Examination of the budgeting process in the public sector; development of skills in budgeting and financial management. Topics include capital budgeting, debt management, revenue forecasting, and auditing. Jointly-offered w/& counts as repeat of UrbPlan 630. American politics course. Prereq: sr st or cons instr.

700 (875) Scope and Methods of Political Science I. 3 cr. G.
Critical examination of the normative and empirical methodologies of political science. Prereq: grad st.

701 (817) Techniques of Political Science Research. 3 cr. G.
Introduction to basic techniques of collecting, coding, processing, analyzing, and presenting political data. Prereq: grad st; one undergrad stats course or cons instr.

702 Advanced Techniques of Political Science Research. 3 cr. G.
Advanced course in quantitative analysis stressing the application of econometric techniques to the study of politics. Prereq: grad st; Pol Sci 701(P).

704 Seminar in Nonprofit Organizations. 3 cr. G.
Overview of structure, functions, and governance of nonprofit organizations. Comparison with government and for-profit organizations. Pol Sci 704, Sociol 704, & Urb Std 704 are jointly offered; they count as repeats of one another. Prereq: grad st.

705 Professionals and Volunteers in Nonprofit Organizations. 3 cr. G.
Seminar in techniques of management of professionals and volunteers in nonprofit organizations. Prereq: grad st.

711 Current Topics in Political Science: (Subtitled). 1-3 cr. G.
This course will address a specific topic or methodological approach of general disciplinary importance. Retakable w/chg in topic & cons advisor & instr to 6 cr max. Prereq: grad st.

715 Introduction to Comparative Politics I. 3 cr. G.
First part of a two-semester introductory seminar in comparative politics, emphasizing the logic of comparison and introducing broad themes in the subfield. Prereq: grad st

716 Intro to Comparatv Politics II. 3 cr. G.
The second course in a graduate introduction to comparative politics. Foundation for students considering further work in comparative politics; emphasis on empirical research literature. Prereq: grad st; Pol Sci 715(P) or cons instr

720 Theoretical and Methodological Issues of Comparative Politics. 3 cr. G.
Seminar on theory construction, research design, and the logic of comparative social inquiry. Prereq: grad st.

725 Judicial Politics and Behavior. 3 cr. G.
Readings in the field of judicial politics and behavior, with particular attention to decision making in collegial courts and to scientific methods of analysis. Prereq: grad st.

727 Seminar in Constitutional Law. 3 cr. G.
Major trends in constitutional case law and in critical analysis of the role of the court in american democracy. Prereq: grad st; cons instr.

749 Seminar in American Political Institutions. 3 cr. G.
Overview of political institutions including executives, legislatures, bureaucracies, courts, interest groups and others and the role they play in the political and policy process. Prereq: grad st.

750 Seminar in the Study of American Political Behavior. 3 cr. G.
Readings and research on a broad range of topics related to political behavior. Concentration on the political science literature on mass political behavior with some attention to the behavior of political elites. Prereq: grad st.

751 Seminar in Public Policy Formation. 3 cr. G.
Nature and consequences of constraints upon policy-makers in political institutions. Prereq: grad st.

763 Scope and Dynamics of Public Administration. 3 cr. G.
The field of public administration, including organization theory, public management, the politics of administration, and the role of government in policy-making. Prereq: grad st.

769 Analyzing and Evaluating Public Policies and Programs. 3 cr. G.
Examination of methods, including cost-benefit analysis and decision analysis, that aid policy makers and administrators in understanding and assessing public and nonprofit sector policies and programs. Prereq: grad st.

789 Theory and Role of Nonprofit Organizations. 3 cr. G.
Graduate-level introduction to nonprofit administration, including an examination of the role of the nonprofit sector in contemporary society. Prereq: grad st.

791 Nonprofit Advocacy and Public Policy. 3 cr. G.
Strategies and methods of nonprifit advocacy and their use by nonprofit organizations in shaping public policy. Implications of the public policy process for nonprofit organizations. Prereq: grad st

792 Decision Making for Nonprofit and Public Organizations. 3 cr. G.
Research methods including research design, measurement, and analysis. Qualitative and quantitative decision-making methods. Understanding and using basic statistical concepts and techniques in decision making. Prereq: grad st

793 Law of Nonprofit Organizations. 3 cr. G.
Legal concepts and issues relevant to the formations and operations of nonprofit organizations. Complying with applicable federal and state statutes and regulations. Prereq: grad st

801 Proseminar in Political Theory. 3 cr. G.
Political theory for graduate students in any field, based on historical and contemporary texts that illustrate different understandings of politics and political theory. Prereq: grad st

815 Problems in Political Theory: (Subtitled). 3 cr. G.
Selected concepts and controversies in the historical and contemporary literature of political theory, such as authority, obligation, equality, justice and the explanation of human conduct. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

816 Seminar in Positive Political Theory: (Subtitled). 3 cr. G.
Selected topics in rationality-based approaches to the study of politics. Retakable w/chg in topic to 6 cr max. Prereq: grad st; Pol Sci 817(P) & 875(P).

817 Feminist Theory and Politics. 3 cr. G.
Examination and analysis of historical and theoretical aspects of feminist theory and politics including liberal, cultural, radical, postmodern, and queer political theory. Prereq: grad st.

818 Theories of International Political Economy. 3 cr. G.
Analysis of major political theories of international economic relations. Examine international political economy issues in industrial developing, and communist countries. Prereq: grad st; intro courses in Econ & Intlrel.

855 Comparative Urban Politics. 3 cr. G.
Examination of critical roles, structures, and processes of urban politics in different cultural settings. Selected to facilitate comparisons between the urban political process in developed and underdeveloped nations. Prereq: second semester grad student.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirements. Fee assessed for 1 cr. Prereq: grad st.

913 Seminar in Urban Political Process. 3 cr. G.
Analysis of the forces and processes that shape urban political life, with particular emphasis on patterns of government, political culture, power structures, and civic participation in urban and metropolitan communities. Pol Sci 913 & Urb Std 913 are jointly-offered; they count as repeats of one another. Prereq: grad st.

914 Seminar in Intergovernmental Relations. 3 cr. G.
To deepen the understanding of policy issues in intergovernmental relations and the complex governmental context in which Americans live and work. Prereq: grad st.

916 Seminar in State Politics. 3 cr. G.
Research in state political processes and policy problems, with special reference to state-urban relationships. Prereq: grad st.

921 Public Service Administrative Internship. 3 cr. G.
This course combines a supervised field placement in a governmental agency or non-profit organization with class sessions and assignments designed to augument the work experience. Prereq: grad st; cons instr.

926 Seminar in the Legislative Process. 3 cr. G.
Analysis of the legislative process and the role of the legislature in the political system and research in legislative behavior. Prereq: grad st.

929 Seminar in Voting Behavior. 3 cr. G.
Voter decision making within and between elections. Prereq: grad st.

935 Seminar in Advanced Political Science Methodology. 3 cr. G.
An advanced seminar in selected topics on political science methodology. Prereq: grad st; Pol Sci 817(P).

950 Seminar in Comparative Politics: Western Nations. 3 cr. G.
- Prereq: grad st.

952 The Politics of Developing Nations: (Subtitled). 3 cr. G.
Variable content course. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

953 Seminar in American Foreign Policy. 3 cr. G.
Analysis-in-depth of selected issues in the formulation and execution of American foreign policy, emphasizing recent problems, changes in world conditions, and methods of studying American policy. Prereq: grad st.

956 Political Culture and Behavior: Industrial Nations. 3 cr. G.
Political culture and mass political behavior in industrialized societies, including theories of ideology, multiculturism, and political parties. A data-based paper is required. Prereq: grad st; Pol Sci 817(P) or equiv prep in statistics.

958 Seminar in Public Administration: (Subtitled). 3 cr. G.
Selected topics covering different aspects of public administration. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

959 Capstone Seminar in Public Administration. 3 cr. G.
Seminar in public administration focusing on administrative ethics and applied research. Requires written and oral presentation of research project. Prereq:

grad st; completion of MPA core curriculum.

960 International Conflict. 3 cr. G.
Examines positive theories and quantitative research pertaining to causes and resolution of international conflict. Prereq: grad st.

961 International Political Theory. 3 cr. G.
The study of the moral and political philosophy of international relations. Prereq: grad st.

962 Ethnic Conflict. 3 cr. G.
Origins, strategies, duration, and termination of ethnic conflicts; international intervention. Prereq: grad st

963 Seminar in Judicial Process and Behavior. 3 cr. G.
- Prereq: grad st.

964 Seminar in Constitutional Politics. 3 cr. G.
Various approaches to the study of constitutional politics, including law as ideology, noninterpretivism, originalism, and departmentalism. Prereq: grad st; Pol Sci 727(P).

965 Municipal Management. 3 cr. G.
The political, social, and economic contexts in which the urban manager functions, with an emphasis on managing municipal service delivery and resources. Pol Sci 965 & Urb Std 965 are jointly offered; they count as repeats of one another. Prereq: Grad st.

972 Interest Groups and Public Policy. 3 cr. G.
Research seminar in the formal and informal role of interest groups in policy development enactment, and administration access and tactics of political pressure, analysis of private and public power relationships. Prereq: grad st.

973 Political Parties. 3 cr. G.
Selection of problems and design of research on the organization and processes of political parties. Prereq: grad st.

974 Seminar in Politics and Public Policy. 3 cr. G.
Research in the formulation and execution of public policy in a democratic society. Prereq: grad st.

976 Seminar in Comparative Public Policy: (Subtitled). 3 cr. G.
Major theories and methods in comparative public policy relevant to specific areas of the world. Area focus varies from semester to semester. Retakable w/ chg in topic to 6 cr max. Prereq: grad st.

990 Research and Thesis. 1-3 cr. G.
- Prereq: grad st; cons instr.

999 Independent Work. 1-3 cr. G.
Individual work directed by a member of the graduate faculty. Prereq: grad st & cons instr.

PSYCHOLOGY

School/College: College of Letters and Science

Degrees Conferred:

- MS in Psychology
- PhD in Psychology

Overview

The Department of Psychology offers doctoral training in clinical and experimental psychology and master's-level training in two specialties: health psychology and behavior analysis. Within experimental psychology, training is offered in the areas of neuroscience, behavior analysis, cognition and perception, health and social psychology, and developmental psychology. The Department refers students interested in counseling psychology, guidance, and school psychology to the Department of Educational Psychology in the School of Education.

Students seeking the PhD may apply for admission to either the clinical or the experimental doctoral program. Transfer from clinical to experimental, or vice versa, requires reapplication to the Department of Psychology. Beginning students without master's degrees are accepted at the master's level, where they must first complete requirements for a master's degree, following the general psychology track. Students who have earned a master's degree elsewhere are admitted at the doctoral level, provided that a thesis has been completed. Although it is possible for the academic portion of the doctoral program to be completed in four years, many students, particularly in the clinical program, require five or more years. Students are expected to be enrolled full time and to earn their PhD's within seven years of initial enrollment, exclusive of the one-year internship required in the clinical program.

Students seeking master's-level training only may apply for either the health psychology or the behavior analysis specialties. Transfer from health psychology to behavior analysis, or vice versa, requires reapplication to the Department of Psychology. It is possible to complete requirements for the MS in two or three years of full-time study. Part-time study is allowable, as long as the MS is earned within seven years of enrolling.

Students may not earn more than two degrees from the Department of Psychology. Therefore, students who earned a bachelor's degree in psychology from UW-Milwaukee are not eligible to apply for admission to the doctoral program unless they earned a master's degree in psychology elsewhere.

All students are expected to know the facts, methodologies, and theories of psychology, and special emphasis is placed on developing research competence. Students receive training at the Department's research laboratories and clinic. Additionally, UWM's metropolitan location offers access to many off-campus sites, including the VA Medical Center, Milwaukee Children's Hospital, and the Medical College of Wisconsin.

Graduate Faculty

Professors

Adesso, Vincent J., Ph.D., University of Arizona
Fleming, Raymond, Ph.D., Uniformed Services University of the Health Sciences
Helmstetter, Fred J., Ph.D., Dartmouth College
Moore, John C., Ph.D., University of California-San Diego
Osmon, David C., Ph.D., University of South Dakota, Chair
Passman, Richard H., Ph.D., University of Alabama
Reddy, Diane M., Ph.D., Uniformed Services University of the Health Sciences

Associate Professors

Davies, W. Hobart, Ph.D., Michigan State University
Dermer, Marshall L., Ph.D., University of Minnesota
Greene, Anthony J., Ph.D., Boston College
Klein-Tasman, Bonita, Ph.D., Emory University
Lima, Susan D., Ph.D., University of Massachusetts-Amherst
Moyer, James, Ph.D., Northwestern University
Ridley, Robyn, Ph.D., University of Missouri-Columbia
Swain, Rodney A., Ph.D., University of Southern California
Woods, Douglas, Ph.D., Western Michigan University

Assistant Professors

Kanter, Jonathan, Ph.D., University of Washington
Larson, Christine, Ph.D., University of Wisconsin-Madison

Master of Science in Psychology

Application

Application must be made to both the Graduate School and the Department of Psychology. In addition to materials required by the Graduate School, the applicant should send — or have sent — to the Graduate Admissions Committee of the Department of Psychology, transcripts of all undergraduate and previous graduate work (although the Graduate School requires official copies, the Department accepts unofficial copies); GRE examination scores; letters of recommendation; and the completed departmental application form. Applicants are admitted only at the beginning of each academic year. Applications should be submitted by December 7 (clinical doctoral program) or December 31 (other graduate programs).

Admission

An applicant must meet Graduate School requirements plus the following departmental requirements to be considered for admission to the program:

1. The completion of an undergraduate major in psychology.
2. Submission of scores on the General Test and the Subject Test of the Graduate Record Examination.
3. Positive recommendation by the Admissions Committee.

Admission is based on evaluations of an applicant's entire record. In evaluating each application, the Admissions Committee examines such factors as test scores, courses taken, involvement in independent research and study projects, and letters of recommendation.

Students without an undergraduate major in psychology may be considered for admission provided the following courses are completed: introductory statistics, a laboratory course in research methods of psychology, and an advanced laboratory course in psychology. Students with one of these courses are eligible to apply, but the two remaining courses would have to be completed within three semesters of enrollment. No course credits earned in making up deficiencies may be counted as program credits required for the degree. Students satisfying only this very minimal requirement should understand that additional work may be required to enroll in specific graduate-level courses.

Advising and the Major Professor

Graduate School and departmental regulations require students to have a major professor to direct their research activities. It is important for students to start their research early in their graduate studies. Admittees are assigned to a major professor they have chosen during the admissions process.

Before the end of the second semester, the student must form an advisory committee of three departmental faculty members, including the student's major professor. Students are free to change their major professor at any time. The Department also provides a Graduate Program Coordinator, who advises about courses and program requirements and who approves programs of study. The Graduate Program Coordinator is also available to help students who wish to change their major professors to find new ones.

Credits and Courses: General Psychology Track

Students are admitted to the general psychology track with the understanding that

they will be continuing in the doctoral program. The minimum requirement for the MS is 26 graduate credits of psychology, 20 of which must be earned in formal coursework (excluding practica) and 6 of which must be earned through an acceptable thesis.

Thesis

The student, under the direction of an advisor, must develop an acceptable thesis based on empirical research. The student must pass an oral examination in defense of the thesis.

Time Limit

The student must complete all degree requirements within three years of initial enrollment.

Specialization in Health Psychology

The specialization in health psychology offers training in research and theories relevant to health promotion, stress and its management, the patient in the treatment setting, management of pain, and management of chronic illness, as well as causes and consequences of disorders such as coronary heart disease, stroke, cancer, and arthritis. The program of studies consists of core health psychology coursework, research coursework, psychology breadth coursework, and an optional field placement.

Course of Study

The course of study consists of at least 36 credits, distributed as follows:

Twelve credits are required in core health psychology courses. All students must take 955 (Seminar in Social Psychology and Health).

Students must also choose any three of the following courses:

- **754** Proseminar in Biological Psychology
- **756** Psychophysiology
- **711** Current Topics in Psychology (health-related topic)
- **833** Neuropsychology
- **854** Behavioral Neuroscience
- **954** Seminar in Physiological Psychology

Research coursework consists of 15 credits:

- **510** Advanced Psychological Statistics
- **610** Experimental Design
- **932** Seminar in Evaluation Research
- and 6 credits of 790 Master's Research.

Breadth coursework consists of 9 credits:

- Chosen from among those listed in the department's Master's Specialization Handbook

The MS specialty in health psychology emphasizes the application of psychological theories to health-related issues. Although students are exposed to theories and applications in coursework, the field placement option offers a further opportunity to learn by doing. Students are encouraged to take at least 3 credits of 812 (Field Placement in Psychology) in their area of interest.

Thesis or Project

The student, under the direction of an advisor, has the option of developing either an acceptable thesis based on empirical research or an acceptable project (a review or theoretical paper). In either case, students must demonstrate their ability to formulate a research idea and pursue independent and original investigation. The student must pass an oral examination in defense of the thesis, but no oral examination is required for a project.

Time Limit

The student must complete all requirements within seven years of initial enrollment.

Specialization in Behavior Analysis

Behavior analysis emphasizes environmental control of the individual organism. The specialization in behavior analysis introduces students to this science and its application through coursework in conceptual foundations, basic principles, and research methods. Students may focus on either basic or applied research, and conduct either laboratory or field research.

Course of Study

The course of study consists of at least 31 credits, distributed as follows:

Thirteen credits in behavior analysis, which must include

- **502** Applied Behavior Analysis
- **714** Conditioning and Learning
- **724** Proseminar in Behavior Analysis

Students must also choose one of the following:

- **914** Seminar in Stimulus Control
- **915** Seminar in Operant Behavior or 919 Seminar in Classical Conditioning

Nine credits in research methods coursework:

- **510** Advanced Psychological Statistics
- **610** Experimental Design
- **620** Single-Subject Research Methods

Nine credits in 790 Master's Research

Thesis

The student, under the direction of an advisor, must develop an acceptable thesis based on empirical research. The student must pass an oral examination in defense of the thesis.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Doctor of Philosophy in Psychology

Admission

A master's degree in psychology that includes a thesis derived from empirical research is a prerequisite for admission to the doctoral level of the graduate program. Students who receive their master's degree in the general psychology track at UWM have satisfied this requirement and are advanced to the doctoral level of the program. Students with other master's degrees in psychology must meet general Graduate School requirements and departmental requirements as given for admission to master's-level study. If a thesis has not been completed as part of the master's degree, the student must complete a thesis or the equivalent of a thesis before being designated a doctoral-level student.

Advising and the Major Professor

As with master's level study, Graduate School and departmental regulations require students to have a major professor to direct their research activities. Students who have earned a UWM master's degree may continue with the same major professor, but this is not required. Entering students are assigned to the major professor they have chosen during the admissions process.

Before the end of the second semester the student must form an advisory committee of five faculty members, including the student's major professor. Doctoral level students are free to change their major professor at any time. The Department provides a Graduate Program Coordinator, who advises about courses and program requirements and who approves programs of study. The Graduate Program Coordinator is also available to help any student who wishes to change his/her major professor to find a new one.

Course of Study

The minimum degree requirement is 54 graduate credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM.

Departmental doctoral curriculum

Only courses numbered 700 or above and a few departmentally designated undergraduate/graduate courses, including 510 and 610, may be counted in the doctoral curriculum, which is specified in the department's Doctoral Student Handbook. Professional matters of concern including ethics are integrated in coursework throughout the curriculum.

Majors

Students in the clinical program satisfy their major by completing a sequence of required courses, including professional ethics, issues, and research methods in clinical psychology; developmental psychopathology; systems of psychotherapy; two courses in assessment; and empirically supported interventions. In addition to classroom courses, students majoring in clinical psychology also must complete a sequence of practicum courses for a minimum of 400 hours of training in assessment, diagnosis, therapy, and professional practice and, later, a pre-doctoral, extramural, full-time (2000 hours) internship.

In consultation with their major professors, students in the experimental program choose a major in one of the following areas: neuroscience; cognition and perception; behavior analysis; health and social psychology; and developmental psychology. An experimental major is a program of integrated study, including a minimum of three graduate-level courses (9 credits; e.g., the core course and two advanced courses). The curriculum in each experimental major area typically consists of a core course plus advanced courses having the core course or equivalent preparation as a prerequisite. Each departmental major consists of designated courses as listed in the department's Doctoral Student Handbook.

Departmental Minors

Students in the clinical program complete one departmental minor, and students in the experimental program complete two departmental minors. Departmental minors are chosen in consultation with the major professor from among the following areas: neuroscience; cognition and perception; behavior analysis; health and social psychology; developmental psychology; psychopathology (experimental students only); quantitative methods; and neurobiology. Note that quantitative methods and neurobiology, although counted as departmental minors, actually involve extradepartmental coursework. A student may choose only one minor that involves extradepartmental coursework; that is, no student may minor in both quantitative methods and neurobiology. A departmental minor consists of a minimum of two graduate-level courses (6 credits; e.g., the core course and one advanced course) in an area other than the major. Each departmental minor consists of designated courses as listed in the department's Doctoral Student Handbook.

Statistics, research design, and history of psychology requirements

All students must complete advanced statistics (510), experimental design (610), and the history of psychology (750).

Breadth requirement

Experimental students must complete one psychology course in an area other than their major and minor areas. Clinical students follow American Psychological Association (APA) requirements and complete one course from each of the following doctoral curriculum areas: neuroscience; health and social psychology; and cognition or conditioning/learning. Clinical students may count coursework in their departmental minor toward a breadth requirement, if appropriate.

Additional course requirements (clinical students only)

Clinical students must complete a course in multicultural clinical issues, and two advanced research methods courses.

Extradepartmental minors (optional)

If they wish, and with the approval of their major professors, students may complete, in another department, a coherent program of at least 8 graduate credits (undergraduate/graduate courses apply).

Residence

The student must meet minimum Graduate School residence requirements. Please note the requirement of earning at least 27 graduate credits at UWM after attaining doctoral student status. For more information on residence, see the Graduate School Doctoral Requirements page.

Doctoral Preliminary Examination

Students must pass a doctoral preliminary examination to qualify for formal admission to candidacy for the degree. The examination focuses on the student's major area of study and can be taken only after the master's degree has been earned and all relevant coursework has been completed satisfactorily. Specific guidelines for preliminary examinations in the various major areas can be found in the department's Doctoral Student Handbook.

Clinical Internship Requirement

After the doctoral preliminary examination has been passed, clinical students are eligible to begin a required extramural, one-year, full-time (2,000 hrs.) internship.

Dissertation Defense

The candidate must write a dissertation that demonstrates the ability to formulate a research topic and pursue independent and original investigation.

Final Oral Examination

The candidate must, as the final step toward the degree, pass an oral examination in defense of the dissertation.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment (four years if entering with a master's degree), excluding internship.

For additional information on the PhD, see the Graduate School Doctoral Requirements page.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored programs before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

502 Applied Behavior Analysis. 4 cr. U/G.
Learning and motivation of human behavior in applied settings. Lab work in community agencies using operant methods, behavior modification, programmed instruction, AV systems. Lec, Lab. Prereq: jr st; Psych 325(P).

503 Perception. 3 cr. U/G.
The nature of perception and its relation to environmental and internal processes. Systems course. Prereq: jr st; 9 cr in psych.

505 Cognitive Processes. 4 cr. U/G.
Human information processing, emphasizing vision and language. Topics: pattern recognition; sensory-specific memory systems, short- and long-term; modern approaches to mental imagery and operations. Lec, lab. Prereq: jr st; Psych 325(P).

510 Advanced Psychological Statistics. 3 cr. U/G.
Topics include probability and sampling theory, correlational methods, and nonparametric techniques. Foundations course. Prereq: jr st & Psych 210(P); or grad st.

514 Conditioning and Learning. 4 cr. U/G.
Principles of conditioning and learning. Lec, lab. Required special course fee assessed; announced in Schedule of Classes each semester. Prereq: jr st; Psych 325(P).

550 History of Psychology. 3 cr. U/G.
The important philosophical and scientific antecedents of contemporary psychology. Systems course. Prereq: jr st; 9 cr in psych.

551 Learning and Motivation Theories. 3 cr. U/G.

Contemporary psychological theories, with special emphasis on theories of learning. Systems course. Prereq: jr st; 9 cr in psych.

609 Motivation. 3 cr. U/G.
Systematic analysis of reinforcement, drive, arousal, and recent neurophysiological research related to motivation and emotion. Systems course. Prereq: jr st; Psych 254(P) or cons instr.

610 Experimental Design. 3 cr. U/G.
Design and analysis of single and multi-factor experiments; tests for trends; multiple comparisons. Foundations course. Prereq: jr st & Psych 210(P); or grad st.

611 Current Topics: (Subtitled). 3 cr. U/G.
Specific topics and any additional prerequisites will be announced in the Schedule of Classes each time the course is offered. Foundations course. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

620 Single-Subject Research Methods. 3 cr. U/G.
A review of single-subject research methods. Foundations course. Prereq: jr st & Psych 325(P), or grad st; or cons instr.

654 Advanced Physiological Psychology. 4 cr. U/G.
Advanced topics in physiological psychology. Lec, lab. Required special course fee assessed; announced in Schedule of Classes each sem. Prereq: jr st; Psych 254(P) & 325(P).

660 Experimental Child Psychology. 4 cr. U/G.
Experimental investigation of child behavior and development. Lec, lab. Prereq: jr st; Psych 260(R) & 325(P).

677 Experimental Social Psychology. 4 cr. U/G.
Experimental investigation of social behavior. Lec, lab. Prereq: jr st; Psych 230(R) & 325(P).

685 Seminar on Writing in Psychology. 3 cr. U/G.
Review and practice of various forms of psychological writing, emphasizing clear communication with various classes of readers, e.g., other researchers, grant proposal reviewers, lay people. Foundations course. Prereq: jr st & Psych 325(P), or grad st; or cons instr.

702 Applied Behavior Analysis. 3 cr. G.
Use of learning principles and procedures to solve behavior problems. 3 hrs lec, 1 hr dis. Prereq: grad st.

705 Information Processing. 3 cr. G.
Introduction to cognitive psychology from an information processing perspective. Core course in cognition for the cognition/perception area. Prereq: grad st.

706 Psychology of Language. 3 cr. G.
An overview of the cognitive processes involved in language comprehension. An advanced course in cognition for the cognition/perception area. Prereq: grad st; some background in linguis or cognitive psych recom, e.g. Psych 705(R).

710 Survey of Clinical Research Methods. 3 cr. G.
Various research methods in clinical psychology. Prereq: grad st.

711 Current Topics in Psychology: (Subtitled). 1-4 cr. G.
Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

712 Professional Ethics, Issues, and Research Methods in Clinical Psychology. 3 cr. G.
Introduction to clinical practice and research. Prereq: grad st.

714 Conditioning and Learning. 3 cr. G.
Principles of classical conditioning and instrumental learning. 3 hr lec, 1 hr dis Prereq: grad st.

724 Proseminar in Behavior Analysis. 3 cr. G.
A review of conceptual, methodological, and professional issues associated with the science and application of behavior analysis. Prereq: grad st.

741 Systems of Psychotherapy. 3 cr. G.
Introduction to psychotherapies: origins, orientations, procedures, and empirical support. Prereq: grad st.

742 Empirically-Supported Interventions. 3 cr. G.
Research-supported therapy protocols for a variety of behavioral disorders; didactic instruction and role-play practice/feedback. Prereq: grad st; some background in psychopathology & systems of psychotherapy recom.

750 The History of Psychology. 3 cr. G.
Examination of the grounding of modern psychological theory and practice in the history of western culture. 3 hrs lec, 1 hr dis. Not open to students with cr in Psych 550(ER). Prereq: grad st.

754 Proseminar in Biological Psychology. 3 cr. G.
Overview of current topics in neuroscience including neuropsychopharmacology, neuropsychology, psychophysiology, and behavioral medicine. Prereq: grad st.

756 Psychophysiology. 3 cr. G.
Experimental investigation of physiological factors in behavior. 2 hrs lec; 1 hr dis. Not open to students with cr in Psych 656(ER). Prereq: grad st.

760 Experimental Child Psychology. 3 cr. G.
Investigation of experimental research relating to infant and child behavior. Lec, Lab, Dis. No cr for students w/cr in Psych 660(ER). Prereq: grad st.

790 Masters Research. 1-6 cr. G.
- Retakable. Prereq: grad st & cons advisory committee.

791 Project in Psychology. 3 cr. G.
Independent research with a faculty member to fulfill the master's thesis requirement for incoming students with a master's degree without a thesis. Prereq: grad st; cons advisory committee.

799 Advanced Independent Study. 1-6 cr. G.
- Retakable w/chg in topic. Prereq: grad st & sponsorship by a faculty member.

802 First-Year Clinical Psychology Practicum. 3 cr. G.
Administration of psychological tests to clinic clients; interviewing, contact with referred sources, feedback of test results to clients, written reports and co-therapy with experienced therapist. Retakable to 6 cr max. Prereq: grad st; clinical training prog; cons instr.

811 Community Placement in Clinical Psychology. 3 cr. G.
Specific agency and additional prerequisites announced in the schedule of classes each time the course is offered. Retakable w/chg of placement to 9 cr max. Prereq: grad st; cons instr & placement supervisor.

812 Field Placement in Psychology. 3 cr. G.
- Retakable for cr. Prereq: grad st; cons instr & placement supervisor.

821 Practicum in Assessment I. 3 cr. G.
Practical experience utilizing techniques used in Assessment I (Psych 831). Prereq: grad st; Psych 712(P), 801(P), 912(P); clinical training prog. Conc reg Psych 831(C) by clinical Psych students.

822 Practicum in Assessment II. 3 cr. G.
Practical experience utilizing techniques used in Assessment II (Psych 832). Prereq: grad st; Psych 821(P); clinical training prog. Psych 832(C) by clinical psych students.

831 Assessment I. 3 cr. G.
Objective techniques used in the appraisal of personality and intellectual processes. Prereq: grad st.

832 Assessment II. 3 cr. G.
Neuropsychological, child-focused, and projective techniques used in the appraisal of personality and intellectual processes. Prereq: grad st; Psych 831(P).

833 Neuropsychology. 3 cr. G.
Anatomy, pathology, and neuropsychology of the higher brain functions in humans. Prereq: grad st.

834 Seminar in Advanced Assessment: 3 cr. G.
Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st: Psych 831(P).

842 Practicum in Therapy. 4 cr. G.
Supervised practicum experience with therapeutic techniques used in clinical psychology. Prereq: grad st; Psych 712(P).

844 Practicum in Clinical Supervision. 3 cr. G.
Practicum to enhance theoretical and practical skills for supervising clinical work. Retakable to 12 cr max. Prereq: grad st; completion of all required clinical Psych courses & practica.

845 Practicum in Empirically-Supported Interventions. 1-3 cr. G.

Application of techniques learned in Psych 742 (Empirically-Supported Interventions). Retakable once to 3 cr max. Prereq: grad st; Psych 742(C).

854 Behavioral Neuroscience. 3 cr. G.
Introduction to current research and theory regarding the neural basis of behavior. Not open to students who have cr in Psych 654(ER). Prereq: grad st.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

890 Graduate Research. 1-6 cr. G.
- Retakable. Prereq: grad st & sponsorship by a grad faculty member.

911 Current Topics and Techniques in Clinical Psychology: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max for masters students & 12 cr max for doctoral students. Prereq: grad st.

912 Developmental Psychopathology. 3 cr. G.
Seminar on concepts and research in the scientific study of psychopathology across the lifespan Prereq: grad st.

914 Seminar in Stimulus Control. 3 cr. G.
Seminar on topics of traditional and contemporary theoretical interest in stimulus control. Prereq: grad st; Psych 714(P) or equiv.

915 Seminar in Operant Behavior. 3 cr. G.
- Prereq: grad st.

919 Seminar in Classical Conditioning. 3 cr. G.
Seminar on topics of empirical and theoretical interest in classical conditioning. Prereq: grad st; Psych 714(P) or equiv.

930 Seminar in Social Psychology. 3 cr. G.
- Prereq: grad st.

932 Proseminar in Evaluation Research. 3 cr. G.
In-depth examination of experimental and quasi-experimental methodologies for assessing the impact of social innovations; factors impeding implementation of such methodologies; utilization of available findings. Prereq: grad st.

933 Seminar in Neuroscience. 1 cr. G.
Student presentations in cellular, molecular, and behavioral neuroscience. Retakable to 3 cr max. Psych 933 & Bio Sci 933 are jointly offered; students may enroll under only one of the curricular areas in any single semester. Prereq: grad st in Bio Sci, Psych, or Ed Psych or cons instr

954 Seminar in Physiological Psychology. 3 cr. G.
- Prereq: grad st.

955 Seminar in Social Psychology and Health. 3 cr. G.
Theoretical and empirical contributions of social psychology to health. Prereq: grad st.

961 (860) Seminar in Child-Clinical Psychology. 3 cr. G.
Diagnosis, etiology, therapy, and research in child-clinical psychology are discussed and criticized. Prereq: grad st.

980 Seminar in Aging. 3 cr. G.
Contemporary issues in the Psychology of aging. Content varies, but emphasis is placed on the experimental analysis of behavioral processes in the older adult. Prereq: grad st.

990 Doctoral Research. 1-6 cr. G.
- Retakable. Prereq: grad st & admis to candidacy for Ph.D. degree.

PUBLIC ADMINISTRATION

- Phone: (414) 229-4209
- Fax: (414) 229-5021
- E-mail: dihrke@uwm.edu

School/College: College of Letters and Science and Lubar School of Business

Degrees Conferred:

- Master of Public Administration (Presented Jointly)

Overview

The College of Letters and Science and the Lubar School of Business offer and present jointly the Master of Public Administration (MPA).

The program is designed to provide theoretical and practical preparation for careers in public and non-profit administration with three areas of concentration: municipal management, general public administration, and non-profit management.

MPA/MUP Program

A coordinated degree program has been designed to allow students to obtain both the Master of Public Administration and the Master of Urban Planning degrees concurrently.

This program is intended to combine professional training in planning with applied administrative and managerial skills. The MPA/MUP requirements are described later in this section.

Graduate Faculty

(Professors' home departments appear in parentheses)

Professors

Ethridge, Marcus, Ph.D. Vanderbilt University (Political Science)
Peracchio, Laura, Ph.D., Northwestern University (Business Administration)
Percy, Stephen, Ph.D., Indiana University (Political Science)
Ragins, Belle, Ph.D., University of Tennessee (Business Administration)

Associate Professors

Alwan, Layth C., Ph.D. University of Chicago (Business Administration)
Arnold, Patricia, Ph.D., University of Wisconsin-Madison, CPA (Business Administration)
Bohte, John, Ph.D., Texas A+M University (Political Science)
Cheng, Rita H., Ph.D., Temple University, CPA, A.O. Smith Professor, Lubar School of Business
Ihrke, Douglas, Ph.D., Northern Illinois University (Political Science)
Lee, Mordecai, Ph.D., Syracuse University (Political Science)
Rast, Joel, Ph.D., University of Oregon (Political Science)

Master of Public Administration

Admission

An applicant must meet Graduate School requirements and hold a bachelor's degree from an accredited college or university to be considered for admission.

There are no fixed prerequisites in terms of prior academic training; but background in public administration, American governmental institutions, economics, statistics, and computer applications in social science is beneficial. Each student's academic preparation is evaluated at the time of application. A personal interview may be required.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

The MPA program requirements to be considered for admission are:

1. An undergraduate grade point average of at least 3.0 (4.0 scale).
2. Three letters of recommendation from persons familiar with applicant's academic ability and achievement.
3. Submission of scores on the Graduate Record Examination (GRE) or the Graduate Management Admission Test (GMAT).

Candidates seeking admission to the MPA/MUP program must apply to and be admitted to both programs. The requirements for admission to the MUP program are detailed in the Urban Planning section of this Bulletin.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at the time of admission should immediately contact the Program Director.

Credits and Courses

The Master of Public Administration degree requires satisfactory completion of 39-42 credits of prescribed graduate study and appropriate coursework.

Minimum Grade Requirements in the Core Courses

In order to demonstrate mastery of the critical Core Course material, MPA students must achieve a grade point average of 3.0 in the six Core Courses, and, regardless of average, students must earn a grade of B- or better in each Core Course. If a grade of C+ or lower is earned in any Core Course, that course must be repeated in an effort to earn the minimum grade of B-. If the student's grade point average in the six Core Courses is below 3.0, the student must repeat one or more Core Courses in which a grade of lower than B was earned in an effort to establish a grade point average of 3.0 in the Core. (For purposes of this requirement, the grade point average for the Core Courses will be calculated on the basis of only the highest grade earned; that is, the grade earned in the first attempt at a Core Course will not be averaged with the grade earned in the repeat.)

Credits and Courses: Core

Students entering the MPA program will be placed, at the discretion of the MPA Director, in one of two tracks (A or B) within the core. The minimum degree requirement is 39 credits for Track A students and 42 credits for Track B students.

Required Core Courses (18-21 credits)

- Bus Mgmt 709 Data Analysis for Management Applications (3 cr)
- Bus Adm 738 Human Resource Management (3 cr)
- Pol Sci/Urb Plan 630 Budgeting and Finance in the Public Sector (3 cr)
- Pol Sci 763 Scope and Dynamics of Public Administration (3 cr)
- Pol Sci 769 Analyzing and Evaluating Public Policies and Programs (3 cr)
- Pol Sci 921 Public Service Administrative Internship (3 cr)

One seminar in organizational management and leadership (3 cr) selected from the following list:

- Bus Adm 443 Special Topics in Human Resources Management
- Bus Adm 732 Transforming Organizations
- Bus Adm 737 Managerial Decisions and Negotiations

Credits and Courses: Track A

Students with significant public or nonprofit sector work experience may, at the discretion of the MPA Director, have the Government/Nonprofit Administrative Internship course (Pol Sci 921) waived. Students seeking placement in this track will need to meet with the MPA Director to discuss this possibility and will be required to provide documentation of current public or nonprofit sector work experience.

Credits and Courses: Track B

Students with no significant public or nonprofit sector work experience are required to enroll in and successfully complete the Government/Nonprofit Administrative Internship course (Pol Sci 921). As part of the requirements for this course, Track B students are required to obtain, with the assistance of the MPA Director, one or more internships in either the public or nonprofit sector while enrolled in the MPA program.

Every student must select and complete the requirements for one of the following three concentrations:

Municipal Management (18 Cr)

- Bus Adm 428 Governmental and Nonprofit Accounting (3 cr)
- Pol Sci 965 Municipal Management (3 cr)

*Select two of the following five courses**:*

- Pol Sci 914 Seminar in Intergovernmental Relations (3 cr)
- Urb Plan 651 Land Use Planning Practice (3 cr)
- Urb Plan 683 Planning for Small Towns (3 cr)
- Urb Plan 710 Planning Law and Land Use (3 cr)
- Urb Plan 750 Special Topics in Land Use Law (3 cr)

**Other courses may be substituted with the approval of the MPA Director.

- Also required: At least six additional elective credits selected by the student with the approval of the MPA Director that relate to the student's substantive interests within the discipline of public administration.

General Public Administration (18 Credits)

- Bus Adm 798 Strategic Planning in Public and Non-profit Sectors (3 cr)
- Comm 705 Communication for Professionals (3 cr)
- Pol Sci 452 Administrative Law (3 cr)
- Pol Sci 914 Seminar in Intergovernmental Relations (3 cr)
- Also required: At least six additional elective credits selected by the student with the approval of the MPA Director that relate to the student's substantive interests within the discipline of public administration. Electives may include Bus Adm 794, Enterprise Integration modules, offered by the Lubar School of Business.

Nonprofit Organization and Management (18 credits)

- Bus Adm 428 Governmental and Nonprofit Accounting (3 cr)
- Bus Adm 766 Marketing for Nonprofit Organizations (3 cr) OR Bus Adm 767 Services and Relationship Marketing (3 cr)
- Bus Adm 798 Strategic Planning in Public and Non-profit Sectors (3 cr)
- Pol Sci 789 Theory and Role of Nonprofit Organizations (3 cr)
- Also required: At least six additional elective credits selected by the student with the approval of the MPA Director that relate to the student's substantive interests within the discipline of public administration. These credits may include seminars in the Health Care Management concentration, e.g., Bus Adm 756, Health Care Delivery Systems, Bus Adm 755, Health Care Administration, and Bus Adm 757, Managed Care and Integrated Health Networks.

Credits and Courses: Capstone Seminar (3 Credits)

Every student will be required to take the capstone seminar, Political Science 959 - Capstone Seminar in Public Administration. The course requirements will include the completion and written and oral presentation of a project on a topic selected with the assistance of the instructor. This course will also be devoted to coverage of special issues and problems of the public administration profession, including administrative ethics.

Total Degree Credits Required: 39-42 cr

Thesis

Not required.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment. Students in the MPA/MUP program (see below) are allowed up to seven years to complete all requirements for both degrees.

MPA/MUP Coordinated Degree Program

This program allows students to complete master's degrees in Public Administration and in Urban Planning concurrently. The coordinated degree requires 42-45 credits of required courses and completion of a concentration in Public Administration (18 credits). However, because some courses completed for the core requirements of the MUP also may count toward the MPA concentration, students may complete the dual degree with a minimum of 54-57 credits. The total number of credits will depend on the student's track and choice of concentration in public administration.

Required Courses in Urban Planning (27 credits)

- UrbPlan 701 Introduction to Land Use Planning, 1 cr
- UrbPlan 702 Introduction to Planning Law, 2 cr
- UrbPlan 711 Planning Theories and Practice, 3 cr
- UrbPlan 720 Urban Development Theory and Planning, 3 cr
- UrbPlan 721 Applied Planning Methods, 3 cr
- UrbPlan 740 Data Analysis Methods I, 3 cr
- UrbPlan 810 Planning Policy Analysis, 6 cr
- UrbPlan 811 Applied Planning Workshop, 3 cr

and any one of the following courses (3 credits):

- UrbPlan 751 Introduction to Urban Design and Physical Planning, 3 cr
- UrbPlan 791 Introduction to Urban Geographic Information Systems for Planning, 3 cr
- UrbPlan 857 Urban Design as Public Policy, 3 cr

Required Courses in Public Administration (18 credits)

- Bus Adm 738 Human Resource Management, 3 cr
- Pol Sci/UrbPlan 630 Budgeting and Finance in the Public Sector, 3 cr
- Pol Sci 763 Scope and Dynamics of Public Administration, 3 cr
- Pol Sci 921 Public Service Administrative Internship,* 3 cr OR UrbPlan 991 Legislative/Administrative Agency Internship, 3 cr
- Pol Sci 959 Capstone Seminar in Public Administration, 3 cr

One seminar (3 cr) in organizational management and leadership selected from the following list:

- Bus Adm 443 Special Topics in Human Resources Management, 3 cr
- Bus Adm 732 Transforming Organizations, 3 cr
- Bus Adm 737 Managerial Decisions and Negotiations, 3 cr

* The internship requirement will be waived for students with significant public sector work experience.

Concentration Requirement (18 credits)

Completion of all the requirements for one of the concentrations in Public Administration. A maximum of six credits of MUP core courses may be used as electives in the MPA concentrations.

Comprehensive Exam

Completion of the comprehensive exam in Urban Planning is required. (See Urban Planning)

Graduate Certificate In Nonprofit Management

The Graduate Certificate in Nonprofit Management is designed to provide students with the knowledge and skills needed to

successfully pursue or advance careers within nonprofit sector organizations.

Students wishing to earn a Graduate Certificate in Nonprofit Management must complete the required 15 graduate credit hours with an overall GPA of 3.00 or better. No student may complete all 15 credits within a single school or college. The curriculum consists of the following five courses:

Required Courses (12 credits)
One of the following three courses:
- BusMgmt 718 - Concepts and Practice of Nonprofit Management (3 credits)
- Poli Sci 789 - Theory and Role of Nonprofit Organizations (3 credits)
- Sociol/Pol Sci/Urb Std 704 - Seminar in Nonprofit Organizations (3 credits)

Both of the following two courses:
- BusMgmt 724 - Accounting for Nonprofit Organizations (3 credits)
- BusMgmt 725 - Governance and Executive Leadership of Nonprofit Organizations (3 credits)

One of the following three courses:
- Bus Adm 766 - Marketing for Nonprofit Organizations (3 credits)
- BusMgmt 721 - Fundraising and Development for Nonprofit Organizations (3 credits)
- Pol Sci 705 - Professionals and Volunteers in Nonprofit Organizations (3 credits)

Elective Courses (3 credits)
- Ad Ldsp 777 Leadership in Multicultural Organizations
- Bus Adm 441 Diversity in Organizations
- Bus Adm 733 Organizational Development
- Bus Adm 737 Managerial Decisions and Negotiations
- Bus Adm 738 Human Resources Management
- Bus Adm 766 Marketing for Nonprofit Organizations (if not selected above)
- BusMgmt 706 Managing in a Dynamic Environment
- BusMgmt 707 Information Technology for Competitive Advantage
- BusMgmt 709 Data Analysis for Management Applications
- BusMgmt 710 Economic Analysis for Managers
- BusMgmt 715 Leadership, Teambuilding and Effective Management
- BusMgmt 721 Fundraising and Development for Nonprofit Organizations (if not selected above)
- Pol Sci 705 Professionals and Volunteers in Nonprofit Organizations (if not selected above)
- Pol Sci 769 Analyzing and Evaluating Public Policies and Programs
- Pol Sci 791 Nonprofit Advocacy and Public Policy
- Pol Sci 792 Decision Making Methods for Nonprofit and Public Organizations
- Pol Sci 793 Law of Nonprofit Organizations
- Pol Sci 958 Seminar in Public Administration: Managing Change in Public and Nonprofit Organizations
- Sociol 443 Organizations, Occupations, and Professions
- Sociol 705 Theory and Method in Social Organizations
- Sociol 732 Complex Organizations
- Sociol 780 Race and Ethnic Relations
- Soc Wrk 794 Advanced Research Methods: Evaluating Social Welfare Programs (2cr)
- Urb Std 720 Theory and Method in Local Economic Development
- Urb Std 725 Methods of Urban Community
- Urb Std 733 Public Program Evaluation
- Other courses with the approval of the Program Director

Students wishing to pursue the Certificate in Nonprofit Management must submit an application to the Program before completion of six credits in the certificate sequence. There is a time limit of three years from initial enrollment for completion of the certificate program.

Those students who wish to earn the Graduate Certificate in Nonprofit Management can be admitted for the certificate program as non-degree graduate students provided they possess a bachelor's or higher degree with a minimum overall undergraduate grade point average of 2.75. Admission as a non-degree graduate student does not constitute admission to a master's degree program. Students may also pursue the certificate while enrolled in another graduate program or as a post-graduate student.

Courses

Descriptions of required and elective courses offered at UWM as part of the Master of Public Administration can be found under the respective curricular areas (see below).

- Business Administration (Bus Adm)
- Business Management (Bus Mgmt)
- Political Science (Pol Sci)
- Urban Planning (Urb Plan)
- Communication (Comm)

SOCIAL WORK

- Phone: (414) 229-4851
- Fax: (414) 229-5311

School/College: Helen Bader School of Social Welfare

Degrees Conferred:

- Master of Social Work
- PhD in Social Work

Overview

The Helen Bader School of Social Welfare offers a program of graduate studies in social work. The mission of the Social Work Department is to provide scholarly leadership for the profession of social work through teaching, research, and service. Reflecting the metropolitan mission of UWM and the School of Social Welfare, the Social Work Programs particularly focus on metropolitan social problems, with a commitment to social and economic justice, cultural diversity, and the empowerment of individuals, families, groups, organizations, and communities to effect change. The primary MSW curriculum goals are to educate and train advanced social work practitioners who demonstrate the knowledge, skills, values and ethics of the profession and who are competent for specialized practice and scholarly pursuits at the MSW level. Additional goals for the social work programs are:

1. to engage in the development and/or dissemination of social work and/or interdisciplinary research and discourse that address
2. the prevention and/or amelioration of social and psychosocial problems; and/or
3. the promotion of positive development and functioning of individuals, families, groups, organizations, and/or communities;
4. to apply empirically supported methods to prevention and intervention strategies, including practice at all levels of systems
5. to address social and economic injustices by enhancing public understanding and applying research to policy and service delivery systems; and
6. to advocate for the prevention and resolution of contemporary social problems, particularly for populations-at-risk.

The MSW curriculum is designed to prepare students for advanced-level professional practice. In addition to content on research, policy, human behavior and practice, students select an area for concentration. The three areas of specialized concentrations are: behavioral and physical health; gerontology; and family and child welfare. The MSW program is accredited by the Council on Social Work Education and prepares students for state certification requirements. The Helen Bader School of Social Welfare offers students access to the University computer system, special interview training rooms, and specialized audiovisual materials.

Within the MSW Program, the Professional Foundation courses serve as the base for the concentrations of the Advanced Curriculum. Students enter into the Advanced Curriculum studies upon completion of the Professional Foundation requirements through course work or exemption. With careful faculty advising, students are able to develop a course of study that builds upon their individualized interests, experiences, and strengths.

Specialized Concentrations

Students are required to select a specialized area of concentration for the advanced curriculum studies.

Behavioral and Physical Health

The behavioral and physical health concentration is designed to prepare students for advanced social work practice involving the delivery of health, mental health and addictions services to individuals, families, small groups, and the community. Students are exposed to issues, approaches, and technologies for application in prevention, treatment, administration, and policy. These are related to risks and problems with: alcohol and other drugs, mental health and mental illness, intimate partner violence, community violence, cognitive and physical disabilities, physical illness, and other behavioral health concerns across the lifespan. Course work provides students with knowledge, values, and skills to prepare them for professional practice in a variety of private and public settings related to physical health, mental health, addictions and substance abuse.

Gerontology

The concentration in gerontology is designed to aid students in understanding the complexity of the aging process from the perspective of the individual, family, society, and social policy. The concentration will cover the physical, psychological, and social processes of aging including family roles and responsibilities, cultural diversity, social support networks and the use of health and social services. Major developmental issues during the second half of life will be presented and interventions to facilitate adaptation to developmental change will be described. Course work will enable students to: understand late-life mental disorders; develop assessment skills; formulate, implement, and evaluate treatment plans; and, become aware of issues related to age and ageism as they influence social work practice.

Family and Child Welfare

The social work profession has a long history of commitment to ensuring the welfare of children. Furthermore, professionals recognize the family system as being significant in the lives of children. The family system, in its various forms, represents a significant social institution, essential to communities and to society as a whole. This concentration focuses on the study of family systems, child and family welfare, and interventions to enhance the lives of children and families. Students in this concentration develop the advanced practice knowledge and skills necessary to provide services to children and families in a wide variety of settings.

Doctoral Program

The goals and objectives of the doctoral program reflect the Department's concern with urban social problems, social and economic equity and well-being, cultural diversity, and the empowerment of individuals, families, organizations, and communities to effect change. The program will prepare students to make significant contributions to social work education and the knowledge base of the profession.

The program emphasizes three areas of specialization: Addiction and Behavioral Health, Applied Gerontology, and Family and Child Welfare.

Graduate Faculty

Professors

Begun, Audrey L., Ph.D., University of Michigan
Fendrich, Michael, Ph.D., University of Texas-Austin
Kadushin, Goldi, Ph.D., University of Illinois-Chicago
Keigher, Sharon M., Ph.D., University of Chicago
McMurtry, Steven, Ph.D., University of Wisconsin-Madison
McNeely, R.L., Ph.D., Brandeis University
Montgomery, Rhonda, Ph.D., University of Minnesota

Associate Professors

Brondino, Michael, Ph.D., University of South Carolina-Columbia
Lie, Gwat-Yong, Ph.D., University of Wisconsin-Madison
Lowery, Christine, Ph.D., University of Washington
Padgett, Deborah, Ph.D., Washington University, Chair
Rose, Susan, Ph.D., University of Illinois-Chicago
Torres, Jose, Ph.D., University of Wisconsin-Milwaukee

Assistant Professors

Berger, Lisa, Ph.D., University of Wisconsin-Milwaukee

Mersky, Joshua, Ph.D., University of Wisconsin-Madison
Otto-Salaj, Laura, Ph.D., Temple University
Pate, David, Ph.D., University of Wisconsin-Madison
Savundranayagam, Marie, Ph.D., University of Kansas

Master of Social Work

Admission

Application must be made to both the Graduate School and the Helen Bader School of Social Welfare. Program application materials are available for the Fall semester only. All applications must be completed and submitted on or before January 2. Applicants must meet Graduate School and program requirements for admission, including:

- Undergraduate grade point average of 2.75 or better.
- Completion of at least 21 semester credits in the social and behavioral sciences (i.e., psychology, sociology, political science, economics, anthropology, and/or their equivalents).
- Submission of a program application which includes three letters of recommendation from persons familiar with the applicant's personal and professional background and potential for success in the social work profession, as well as a narrative statement, providing information about relevant volunteer and work experiences and professional goals. (See program application forms for additional information.)

Applicants may be admitted with specific program-defined course deficiencies provided that these deficiencies include no more than the satisfactory completion of two courses. Deficiency requirements must be satisfied within one semester of enrollment in the Advanced Curriculum. Deficiencies are monitored by the Graduate School and the Helen Bader School of Social Welfare. Course credits acquired by satisfying deficiencies are not counted as program credits required for the degree.

Faculty Advisor

All students must have a faculty member within their area of specialized concentration to advise and supervise their studies as specified in Graduate School regulations. Students must develop, in consultation with the advisor, a written plan of study, including selection of the specialized concentration and practice method areas. Students who are not assigned an advisor at the time of their admission should contact the Assistant Dean of the Helen Bader School of Social Welfare for assignment. Students may elect to change advisor contingent upon the new advisor's appropriateness to the area of specialized concentration, the advisor's acceptance of additional advisees, and formal notification to the office of the Assistant Dean of the Helen Bader School of Social Welfare.

Non-degree Students

UWM non-degree students may earn credits which, if appropriate, may be counted toward a degree at a later date. Non-degree students may enroll in 12 credits of the Professional Foundation courses with the exception of field education (721), and in courses for 12 credits of which prerequisites can be satisfied. Non-degree students may not enroll in field education or advanced curriculum practice methods courses (711, 713, 721, 722, 811, 820, 821, 822, 915). Students should contact the Graduate School for information and regulations on non-degree status as well as the advising office in the Helen Bader School of Social Welfare prior to enrolling for social work courses under the non-degree classification.

Credits and Courses

The MSW Program requires a minimum of 34 graduate credits for students admitted to the Advanced Curriculum. Students may be required to complete up to 22 credits to fulfill the Professional Foundation. Course work taken as the Professional Foundation (see below) cannot be counted as part of the 34 Advanced Curriculum credits. The minimum 34 Advanced Curriculum credit requirements are distributed as follows:

- 11 credits of Field Instruction (722/821/822)
- 8 credits of Social Work Practice Methods (711 or 713/811* or 915/820)
- 4 credits of Social Work Research (793/794)
- 5 credits within selected area of concentration (771 or 753/851*)
- 6 credits of electives

* Requires sections to be selected from within the specialized concentration area, for total concentration credits of 10

Professional Foundation

Students admitted into the graduate social work program without having earned a bachelor's degree from an accredited social work program within the past 5 years are required to fulfill the Professional Foundation prior to Advanced Curriculum course work (see below for exemptions). The purpose of the Professional Foundation is to orient students to the profession and to provide a knowledge, values and skills base in preparation for the Advanced Curriculum. Course work in the Professional Foundation is not included in the 34 Advanced Curriculum credits required for completion of the MSW degree. The Professional Foundation courses are:

- **604** Social Systems and Social Work Practice
- **662** Methods of Social Welfare Research
- **665** Cultural Diversity and Social Work
- **705** Individual Behavior and Social Welfare
- **708** Social Work Methodology I
- **709** Social Work Methodology II
- **721** Field Instruction I
- **750** Social Welfare Policy Development and Implementation

Exemptions

Students who have, within the 5 years preceding admission, completed course work which substantially duplicates Professional Foundation courses may apply to the Chair of the Social Work Department for an exemption from the relevant courses. Exemption examinations are also offered on a scheduled basis for these courses. Exemption of the field experience (721) may be permitted under special employment experience circumstances and only by permission of the Director of Field Programs. Students interested in securing an exemption should request course exemption forms upon notification of admission to the program.

All requests for exemptions must be made at the time of initial enrollment. Exemption requests will not be accepted following the end of the first semester of coursework.

Time Limit

Students admitted directly into the Advanced Curriculum must complete all degree requirements within seven years of initial enrollment; students required to complete any portion of the Professional Foundation must complete all degree requirements within seven years of initial enrollment.

Doctor of Philosophy in Social Work

Admission

An applicant must meet Graduate School requirements plus the following departmental requirements in order to be considered for admission:

1. Hold or be in the process of completing a master’s degree in social work.
2. Identify the following in the Personal Statement section of the Graduate School application:
    - Which of the program’s three areas of specialization (Addiction and Behavioral Health, Applied Gerontology, or Family and Child Welfare) they wish to pursue.
    - Their reasons for seeking a doctoral degree in social work.
    - Their goals as future scholars.

- A topic or issue in the field that they consider to be particularly challenging and worthy of study.

3. Submit a current copy of a professional résumé or curriculum vitae to the Social Work Ph.D. Program. This should contain information on:
   - All post-secondary education, including institutions, degrees and dates of completed programs of study, plus institutions, dates, and types of study that did not lead to a degree.
   - All employment by the applicant in social work and related areas, including dates and employing organizations.
   - Employment unrelated to social work within the past five years.
   - Information on any past or current professional licenses held.
4. Submit scores from within the past five years on the Graduate Record Examination (GRE) General Test to the Social Work Ph.D. Program.
5. Submit three letters of recommendation from persons familiar with the applicant's achievements and academic potential, including at least one current or former graduate program instructor to the Social Work Ph.D. Program.
6. Submit a sample of written work to the Social Work Ph.D. Program that demonstrates: the applicant's knowledge of social work theory, practice, and research; ability to think analytically; and writing skills. The sample should be at least 1000 words in length and represent work for which the applicant was the sole author.

Application deadlines for admission to the program are January 2nd for the following fall semester.

Advisement

The department will assign each Ph.D. student a major professor. This assignment is based on congruence between the applicant's interests and the expertise of the major professor. In consultation with the director of the Ph.D. program, the student may change major professors after beginning the program, but no applicant will be admitted unless a doctoral faculty member in social work agrees to serve as major professor.

Financial Assistance

Through a combination of tuition remission, teaching assistantships, research assistantships, fellowships, and other options, the program will attempt to provide financial assistance to all admitted students during their first three years in the program. Applicants needing additional information on other sources of financial assistance, such as student loans, should contact the campus Department of Financial Aid.

Residence

Students must meet minimum Graduate School residency requirements.

Course of Study

A minimum degree of 43 graduate credits beyond the master's degree are required, at least 36 of which must be earned in residence at UWM.

In consultation with the major professor and as soon as possible after admission, each student designs a program of study to gain the knowledge and skills appropriate to his/ her educational goals. All programs of study must include the following:

Knowledge Building (3 credits)

Required Course
- SocWrk 901 - History and Philosophy of Scientific Inquiry

Specialization Seminars (11-12 credits)
- The curriculum includes three areas of specialization: Addiction and Behavioral Health, Applied Gerontology, and Family and Child Welfare. Each student must select at least one of these areas in which to concentrate. In consultation with the major professor, a student may also choose to develop expertise that spans more than one area.

Content in these three specialization areas is presented in the form of specialization seminars. All students must take at least three specialization seminars within the department and at least one relevant course external to the department; the external course must be from a list of courses approved for this purpose or a student's unique request approved by the doctoral program committee. At least two courses, including one internal and one external course, must be in the student's area of specialization, and at least one course internal to the department must be in an area other than the student's primary specialization. All specialization courses outside the department must be approved by the student's major professor prior to enrollment.

Examples of specialization seminars
- SocWrk 911 - Research and Processes of Individual Change across the Lifespan (Addiction and Behavioral Health specialization)
- SocWrk 931 - Theories of Poverty and Social Welfare Policy for Children and Families (Family and Child Welfare specialization)

Methods of Inquiry and Analysis (19 credits total)
- Content in this area comprises a set of required courses in methods of social/behavioral research and statistics. Students are expected to enter the program with at least a basic background in both methods and statistics and may need to satisfy prerequisites before proceeding to required courses.

Research Methods

Required Courses
- SocWrk 951 - Quantitative Research Methods
- SocWrk 952 - Qualitative Research Methods

Statistics

Required Courses
- SocWrk 961 – Introduction to Statistical Methods
- SocWrk 962 – Applied Multiple Regression Analysis
- SocWrk 963 – Measurement Methods and Related Multivariate Statistics
- SocWrk 964 – Advanced Statistical Methods

In cases where any of the above courses are not available during the student's course of study, students may choose from an approved set of alternatives offered in other departments or campuses. Approval for such an exception must be secured from the major advisor prior to enrolling.

Skills Proseminars and Practicum Experiences (5 credits minimum)

Courses in this area focus on acquainting students with specific skills useful in scholarly endeavors and also with skills for teaching at the post-secondary level. Most individual courses will be worth 1 credit. All students must complete the following three courses:

- SocWrk 971 - Proseminar in Methods of Social Work Education
- SocWrk 972 - Practicum in Social Work Education
- SocWrk 973 - Practicum in Social Work Research

Students assigned to responsibilities as teaching assistants who satisfactorily complete at least one semester in that capacity will qualify to waive the SocWrk 972 course and its required credits. Students assigned to responsibilities as project assistants for faculty research projects who satisfactorily complete at least one semester in that capacity will qualify to waive the SocWrk 973 course and its required credits.

Seminars

Required
- SocWrk 991 – Topics in Social Work: Proseminar in Research Ethics
- SocWrk 991 – Topic in Social Work: Proseminar in Grantwriting

Electives (2-3 credits)

These credits provide an opportunity for students to take content of interest within the social work department or in other departments on campus that offer graduate-level courses relevant to the student's educational goals. Elective options within the department include the completion of additional specialization seminars beyond the required total. Students may also complete this requirement by taking additional research methods or statistics courses within or outside the department, or they may take theory or basic-knowledge courses in other departments that are at the graduate level and are approved by their advisor and the social work Ph.D. program coordinator.

Dissertation Seminar (1 credit)

This requirement is designed to provide structure and mentoring in the process of exploring researchable topics, identifying a suitable dissertation project, and developing and refining the dissertation proposal. All students must complete:

SocWrk 980 - Dissertation Seminar

Except with the approval of the student's major professor and the Director of the doctoral program, it is expected that students will complete the above course requirements within two years of initial enrollment in the program.

Qualifying Exercise

All students must pass a qualifying exercise subsequent to successfully completing all required course work and prior to being admitted to doctoral candidacy. In consultation with the student's advisory committee and with the approval of the Doctoral Program Committee, one or a combination of the following formats will be required:

1. Examination constructed by the student's advisory committee.
2. One or two substantive papers that demonstrate competence in the student's specialization area, meet criteria established by the committee, and are suitable for publication in a respected journal in the field.

Regardless of format, the qualifying exercise is comprehensive and integrative, reflective of the student's individual course of study, and requiring independent work beyond the course requirements.

Dissertation Proposal Defense

All students must successfully complete an oral defense of their dissertation proposal to determine their preparation for independent research. The defense must be completed successfully within four years of initial enrollment.

Dissertation

Students who have successfully completed the Qualifying Exercise and a one-page preliminary dissertation proposal are formally admitted to doctoral candidacy. In accordance with Graduate School policies, students must then register for three research or thesis/dissertation credits each semester until the dissertation is submitted to the Graduate School. To meet the requirements for the dissertation, the candidate must complete an original independent research project that adds meaningfully to the existing body of knowledge in social work. It should be of a caliber that warrants publication in respected journals in the field.

Dissertation Defense

As the final step toward the degree, the candidate must pass an oral examination before his/her doctoral committee in defense of the dissertation. The examination may also cover general topics relevant to the student's area of study. This requirement may not be completed until all other degree requirements are satisfied.

Time Limit

It is expected that most students will complete all degree requirements within six years of initial enrollment in the doctoral program. All requirements MUST be completed within ten years from the date of initial enrollment.

Certification Programs

School Social Work

Certification requirements for a school social worker include the following: an MSW degree, a minimum of 18 credits of professional education, completion of an approved program, and two years of social work experience working with children and youth. The school social work program consists of the following:

1. Field Education (at least 1,000 hours of which at least 500 hours are in an elementary or secondary setting, and 500 hours are working with children and youth)
2. Child welfare content
3. Coursework on Native Americans in Wisconsin
4. Exceptional education course
5. Social Work courses in human behavior (705 or equivalent), family development (771), school policy (851), practice methods in schools (791), and institutional racism (791).
6. Human Relations contact (a minimum of 75 hours of direct experience with minority groups)
7. Portfolio
8. Passing score on State's School Social Work content exam

Early in their academic program, students should consult with the coordinator of Social Work and the Field Education Office for an evaluation of prior coursework and development of an overall academic program.

Marriage and Family Therapy

The Certificate in Marriage and Family Therapy (MFT) prepares social work students for beginning practice in marriage and family therapy. The MFT Certificate is designed to meet the educational requirements for membership in the American Association for Marriage and Family Therapy. (Final acceptability rests solely with the membership committee of AAMFT.) Students wishing to complete the Certificate should register their intention with the Coordinator of the MFT Certificate Program prior to beginning their graduate studies.

Completion of the Certificate sequence requires an additional 9-11 graduate credits beyond the MSW requirements. Specifically, students complete 9 credits of family studies, 9 credits of marriage and family therapy, 9 credits of human development, 4 credits of research, and 3 credits of professional issues. Students working towards MFT Certification are assigned to field placements in settings which provide the opportunity for practice with families.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

497 Study Abroad: (Subtitled). 1-6 cr. U/G. Variable content (subtitle is area of concentration). Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared program course work. Retakeable with change in topic to max of 9 cr. Prereq: jr st; acceptance for Study Abroad Prog.

536 Social Work and Medical Issues. 2 cr. U/G. Survey course focusing on medical social services, analysis of social welfare health programs and current medical issues such as aids and environmental health and their effects. Prereq: jr st, satisfy english competency, one prior course in Soc Wrk recom; or grad st.

562 Child and Family Services. 2 cr. U/G. Introduction to child and family welfare services, including methods for assessing

needs, existing treatment techniques, and institutional support systems. Prereq: jr st, satisfy English competency, one prior course in Soc Wrk recom; or grad st.

564 Social Services for the Aging. 2 cr. U/G.
Individual and societal implications of the aging process, with an emphasis upon current resources and programs for the elderly. Prereq: jr st, satisfy English competency, one prior course in Soc Wrk recom; or grad st.

580 An Overview of Child/Youth Care. 3 cr. U/G.
Survey of skills, theories and approaches of the youth work field. Emphasis on relationship-building, interactive and developmental approaches in a variety of settings. Ed Pol/ExcEduc/Soc Wrk 580 are jointly offered & count as repeats of each other. Prereq: jr st or cons instr.

581 Youth Work Practice. 3 cr. U/G.
Applies the skills, theories and approaches of the youth work field to settings such as schools, community centers, and residential programs. Ed Pol/ExcEduc/Soc Wrk 581 are jointly offered & count as repeats of each other. Prereq: jr st; Ed Pol/ExcEduc/Soc Wrk 580(P); or grad st or cons instr.

604 Social Systems and Social Work Practice. 3 cr. U/G.
Analysis of organizations, community and social institutions and the impact they have on human behavior and how they provide the social context of social work practice. Prereq: jr st; satisfy English competency, admis to Soc Wrk major, Soc Wrk 310(P); or grad st.

630 Women, Poverty and Welfare Reforms. 2-3 cr. U/G.
Description of women in poverty and analysis of historical and contemporary national and state policies aimed at reducing poverty. Prereq: jr st; one prior course in Soc Wrk recom.

640 Women and Aging: Issues, Concerns, Prospects. 2 cr. U/G.
Analyze health/mental health/socio-economic/family issues of older women through study of research, public policy, stereotypes, and theories about women and aging. Prereq: jr st, satisfy English competency, one prior course in Soc Wrk recom; or grad st.

650 Social Welfare and the Law. 2 cr. U/G.
Collaborative principles of social work and the legal profession. Selected concepts and principles of legal and social provision for protection of family, children and adults. Prereq: jr st, satisfy English competency, one prior course in Soc Wrk recom; or grad st.

660 Women's Issues in Human Services. 2 cr. U/G.
Overview, examination and analysis of significant current trends in women's issues from the perspective of the human service professions. Prereq: jr st, satisfy English competency, one prior course in Soc Wrk recom; or grad st.

662 Methods of Social Welfare Research. 3 cr. U/G.
Analyze methods of social welfare research and problems in project design and programming. Characteristics of investigations directed to planning, administrative, practice, and scientific objectives. Prereq: jr st, Soc Wrk major, completion of GER Math req, Soc Wrk 100(P) & 206(P), 421(C); or grad st.

665 Cultural Diversity and Social Work. 3 cr. U/G.
Emphasis on culture, race and ethnicity, theories of prejudice, and racial minority groups, and the politics of human services in multicultural society. Prereq: jr st, admis to Soc Wrk major, satisfy English competency, Soc Wrk 100(P), 206(P), 250(350)(P); or grad st.

691 Practice Methods in Social Work: (Subtitled). 1-3 cr. U/G.
Topics focused on Social Work practice methods. Specific topics and credits to be announced in Schedule of Classes. May be retaken with change in topic to max of 6 cr. Prereq: jr st.

705 Individual Behavior and Social Welfare. 3 cr. G.
The development and behavior of individuals in interaction with their social contexts; implications for social welfare. Prereq: grad st.

708 Social Work Methodology I: Individuals and Families. 3 cr. G.
Introduction to generalist social work practice with individuals and families, with emphasis on integration of theory and knowledge with professional practice. Prereq: grad st.

709 Social Work Methodology II: Groups, Organizations and Communities. 2 cr. G.
Introduction to generalist social work practice with groups, organizations and communities, with emphasis on integration of theory and knowledge with professional practice. Prereq: grad st; Soc Wrk 708(C).

711 Direct Social Work Practice I. 3 cr. G.
Methods of social work intervention employed in helping individuals, families and small groups. Addresses personal, interpersonal, environmental and resource issues with emphasis on interviewing, assessing, contracting and goal setting. Prereq: grad st; Soc Wrk 710(P), or BSW degree, or Soc Wrk 708(P) & 709(P); Soc Wrk 722(C).

713 Community Organization, Planning and Human Service Administration I. 3 cr. G.
Knowledge and skill development in the activities, roles, styles, and ethical issues in community and administrative practice. Emphasis on needs assessment, planning methodologies, and change efforts. Prereq: grad st; Soc Wrk 708 & 709(710) or BSW degree.

716 Introductory Group Work. 2 cr. G.
Social work method employed in dealing with problems of small groups, making use of organizational and community resources in working with them. Prereq: grad st.

721 Field Instruction I. 3 cr. G.
Supervised social work practice in a social agency. Prereq: grad st; Soc Wrk 710(P) or 708(P); 709(C) or 711(C).

722 Field Instruction II. 3 cr. G.
Supervised social work practice in a social agency. Prereq: grad st; Soc Wrk 721(P) or BSW degree; Soc Wrk 713(C) or 711(C).

723 Field Seminar I. 1 cr. G.
Selected topics pertaining to field education in a professional school. Prereq: grad st; conc reg Soc Wrk 722.

750 Social Welfare Policy Development and Implementation. 2 cr. G.
Examination of policy development, implementation, and models of analysis that describe and provide analytical guides for determining the efficacy of public policy in addressing human needs. Prereq: grad st.

753 Psychopathology for Social Workers. 3 cr. G.
Mental disorders and their implications for the social work profession, including assessment, intervention and prevention issues. Prereq: grad st; Soc Wrk 705(P).

754 Psychopathology of Childhood And Adolescence. 2 cr. G.
Mental and behavioral disorders of children and adolescents and their implications for the social work profession, including assessment, intervention and prevention issues. Prereq: grad st; Soc Wrk 705.

764 Human Services Systems. 2 cr. G.
Analysis of human services delivery mechanisms in the U.S. and the role of social workers as they relate to issues of social control; poverty and social functioning. Prereq: grad st.

765 Professional Issues in Practice: Ethical and Legal Dilemmas. 2-3 cr. G.
Ethical, legal, and case management issues faced by practitioners who provide services to individuals, couples and families. Topics include malpractice, legal regulation, and ethical dilemmas. Prereq: grad st.

771 Development of the Family Over the Life Span. 3 cr. G.
The family as a social system as it engages in various developmental tasks throughout the life cycle and in interaction with the social context; social work implications of relevant theories and research. Prereq: grad st.

773 Perspectives on Crime and the Criminal Justice System. 3 cr. G.
Analysis of the causes of criminal behavior; processes of becoming a criminal; patterns of criminal behavior; and policy and individual consequences of

decriminalization. Not open to students who have cr in Crm Jst 773, which is identical to Soc Wrk 773. Prereq: grad st.

774 Trauma Counseling I: Theory and Research. 3 cr. G.

Seminar examining impact of trauma experience on individuals, groups and communities following a catastrophic event. Explores traumatic events, mental injuries and impact on memory, learning, physical health and dysfunctional behavior. Nurs 774, OccThpy 774, and Soc Wrk 774 are jointly offered; they count as repeats of one another. Prereq: grad st

775 Trauma Counseling II: Diagnosis and Treatment. 3 cr. G.

Seminar on diagnosis and assessment instruments as well as intervention and therapeutic techniques used to address trauma issues in counseling acute and chronic traumatized clients. Nurs 775, OccThpy 775, and Soc Wrk 775 are jointly offered; they count as repeats of one another. Prereq: grad st; Nurs 774, OccThpy 774, or Soc Wrk 774, or cons instr

778 Personality Theories for the Practice of Social Work. 3 cr. G.

A consideration of social work practice in terms of comparison of various theories and schools of thought relating to human growth and behavior; ways in which social work practitioners can make use of diverse viewpoints. Prereq: grad st.

791 Current Topics in Social Work: (Subtitled). 1-3 cr. G.

Variable content course with specific topics to be announced in schedule of classes. May be repeated with change in topic to max of 6 cr. Prereq: grad st.

793 Advanced Methods of Social Welfare Research. 2 cr. G.

Advanced problems and methods of research in social work practice. Prereq: grad st; Soc Wrk 662(P) or equiv; Soc Wrk 721(C) or 722(C).

794 Advanced Research Methods: Evaluating Social Welfare Programs. 2 cr. G.

Provides students with the skills and knowledge base necessary to understand the program evaluation process as it applies to social welfare programs. Prereq: grad st.

800 Issues in the Application of Correctional Philosophy. 3 cr. G.

An examination of historical and contemporary philosophy, issues and applications of criminal justice and social work professions in correctional treatment and practice. Prereq: grad st.

805 Correctional Administration and Programming. 3 cr. G.

An examination of administrative and programmatic issues facing adult corrections, including institutional corrections, probation, parole, and community-based corrections. Prereq: grad st.

811 Direct Social Work Practice II: (Subtitled). 3 cr. G.

A continuation of methods of social work intervention, with sections tailored to specialized concentration areas: gerontology, family and child welfare, and behavioral and physical health. Emphasis is on selection and implementation of appropriate intervention plans. Prereq: grad st; Soc Wrk 711(P); 722(C).

813 Financial Management and Planning in Human Services. 2 cr. G.

This course is designed to facilitate and understanding of selected areas of planning and management in human services with an emphasis on resource development and financial management. Prereq: grad st; Soc Wrk 713(C) & 915(C) or cons reg; cons instr.

815 Advanced Groupwork. 2 cr. G.

Methods of working with groups on advanced basis for treatment purpose. Prereq: grad st; Soc Wrk 716 or cons instr.

820 Seminar in Social Work Practice: (Subtitled). 2 cr. G.

Critical examination of varied and specialized methodologies with emphasis on new professional directions, interdisciplinary coordination and integration of professional practice with behavioral sciences, research, and policy concerns. May be repeated with change in topic to max of 6 cr. Prereq: grad st; Soc Wrk 811(C) or 915(C).

821 Field Instruction III. 4 cr. G.

Second-year supervised social work practice in a social agency. Prereq: grad st; Soc Wrk 811(C) or 915(C); 722(P); 711(P) or 713(P).

822 Field Instruction IV. 4 cr. G.

Advanced second-year supervised social work practice in a social agency with emphasis on integration of professional practice with methodology, behavioral sciences, research and policy concerns. Prereq: grad st; Soc Wrk 821(P).

825 Supervision and Consultation for Direct Service. 2 cr. G.

Methods employed by professional social workers in supervisory, leadership and consultative relationships with other types of welfare personnel. Prereq: grad st; Soc Wrk 711 or 718 or 864.

830 Intervention Strategies for Correctional Clients. 3 cr. G.

A review and analysis of intervention approaches and programs used with correctional clients, both juvenile and adult, with emphasis on diversion, prevention, and rehabilitation strategies. Prereq: grad st.

831 Models of Family Therapy. 2 cr. G.

Introduction to the major family therapy approaches, including assessment and intervention techniques for each. Models include systemic, structural, strategic, interactional and multigenerational. Prereq: grad st; Soc Wrk 811 or conc reg.

832 Marital Therapy. 2 cr. G.

Intensive examination of varied methodologies to effect therapeutic change in couples. Includes assessing couples' interactional patterns and formulating therapeutic strategies. Prereq: grad st; Soc Wrk 811 or conc reg; cons instr.

835 Sex Related Issues and Topics. 2 cr. G.

Physiology, psychology, and sociology of sex-related issues and topics to prepare professional to assist in these areas or to make an appropriate referral. Prereq: grad st.

851 Social Issue and Policy Analysis: (Subtitled). 2-3 cr. G.

Advanced level analysis of the relationship between selected problem areas, policy development and service system. May be repeated with change in topic to max of 9 cr. Prereq: grad st; Soc Wrk 750(P) or BSW degree.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

901 (effective 01/26/2009) Philosophies of Science and Knowledge. 3 cr. G.

Analyzes philosophical foundations of science, knowledge building processes, and the scope and nature of knowledge, emphasizing applications for the social and behavioral sciences. Prereq: grad st; admis to the Soc Wrk Ph.D. program or written cons instr.

915 Human Services Administration II. 3 cr. G.

The role of the professional in the human services administrative organization, focusing on interpersonal relationships in supervision, evaluation and leadership. Prereq: grad st; Soc Wrk 713; 722 or conc reg.

921 Field Instruction V. 3-4 cr. G.

Optional advanced supervised social work practice in a social agency. Prereq: grad st; Soc Wrk 822.

931 Theories of Poverty and Social Welfare Policy. 3 cr. G.

Analyzes anti-poverty policies/programs, populations at risk, poverty dynamics, poverty-rate trends, circumstances of the poor, poverty etiology and government roles in income redistribution and social change. Prereq: grad st; admis to the Social Work Ph.D. program or written cons instr

932 Research and Processes of Individual Change Across the Lifespan. 3 cr. G.

Theory and research of individual change from a social work perspective using classic to recent models, with application to diverse populations. Prereq: grad st; admis to the Soc Wrk Ph.D. program or written cons instr.

940 Applied Gerontology Capstone I. 1 cr. G.

Professional socialization seminar emphasizing the interdisciplinary nature of

gerontology and exposing students to professional and library resources for continuing professional development. Sociol 940 and Soc Wrk 940 are jointly offered; they count as repeats of one another. Prereq: grad st; Nurs 760(P) & Soc Wrk 851(P).

941 Applied Gerontology Capstone II. 1-2 cr. G.

Teamwork applied research project conducted in collaboration with a community-based organization that serves the elderly; presentation of findings to a professional audience. Sociol 941 and Soc Wrk 941 are jointly offered; they count as repeats of one another. Students who intend to prepare a manuscript for publication enroll for 2 crs; all other enroll for 1 cr. Prereq: grad st; Sociol or Soc Wrk 940(P).

942 The Family and Long-Term Care. 3 cr. G.

Seminar on the role of family in providing long term care. Social values, public policies, and consequences for individuals and society. Sociol 942 & Soc Wrk 942 are jointly offered; they count as repeats of one another. Prereq: grad st.

945 Family and Long-Term Care Across the Life Course. 3 cr. G.

Seminar on the family role in the provision of long term care within the context of kinship care, and care of persons with chronic illnesses, developmental and adult disabilities. Prereq: grad st; admis to the Soc Wrk Ph.D. prog or writ cons instr.

951 Quantitative Research Methods. 3 cr. G.

An in-depth, hands-on review of experimental, quasi-experimental, and non-experimental approaches to the design and implementation of quantitative research studies. Prereq: grad st; admis to the Social Work Ph.D. Program or written cons instr

952 Qualitative Research Methods in Social Work. 3 cr. G.

Seminar on the philosophical and methodological issues of qualitative research. Students will conduct exploratory original field research and produce a research proposal based on their findings. Prereq: grad st; admis to the Soc Wrk Ph.D. prog or writ cons instr.

961 Introduction to Statistical Methods. 4 cr. G.

Reviews basic parametric and nonparametric tests, including descriptive statistics, correlation, basic inferential statistics, one- and two-way ANOVA, OLS regression, nonparametric statistics, and handling missing data. Prereq: grad st; admis to the Social Work Ph.D. program or written cons instr

962 Applied Multiple Regression Analysis. 3 cr. G.

Multiple regression analysis concentrating on OLS regression techniques but also covering logistic and Poisson regression. Prereq: grad st; admis to the Social Work Ph.D. program or written cons instr.

963 Measurement Methods and Related Multivariate Statistics. 3 cr. G.

Survey of concepts and applications of Classical True Score and Item Response Theory and multivariate statistical methods relevant to test evaluation and construction. Prereq: grad st; SocWrk 961(P) & 962(P); admis to the Soc Wrk Ph.D. program or written cons instr.

964 (effective 01/26/2009) Advanced Statistical Methods. 3 cr. G.

Covers multivariate statistical procedures, including MANOVA, MANCOVA, canonical correlation and discriminant function analysis, Poisson regression, survival analysis, multilevel modeling, and analysis of longitudinal data. Prereq: grad st; admis to the Soc Wrk Ph.D. program or written cons instr.

970 Readings in Research in Social Welfare. 1-4 cr. G.

A research oriented course that involves the systematic analysis and investigation of social welfare and/or social welfare related topics. Students shall not take more than 6 cr total between courses Soc Wrk 970(P) & 999(P). Prereq: grad st; cons instr.

991 Doctoral Proseminar. 1 cr. G.

Variable content course with specific topics to be announced in schedule of classes. May be repeated with change in topic to 6 cr max. Prereq: grad st; admis to the Social Work Ph.D. Program or written cons instr

999 Independent Reading in Social Work. 1-3 cr. G.

Work suited to individual graduate students arranged. Students shall not take more than 6 cr total between courses Soc Wrk 970(P) & 999(P). Prereq: grad st; completion of foundation courses for non-BSW students; writ cons instr & dir of Soc Wrk prog.

SOCIOLOGY

- Phone: (414) 229-4388
- Fax: (414) 229-4266
- E-mail: sociology@uwm.edu

School/College: College of Letters and Science

Degrees Conferred:

- MA in Sociology

Overview

The Master of Arts (M.A.) Degree Program in Sociology at the University of Wisconsin-Milwaukee offers a flexible and varied program of study to students who wish to specialize in one of the discipline's subfields. The program provides students with balanced and comprehensive training in sociological theory, research methodology and social statistics, and has a special focus on urban sociology, social inequality, and the changing character of work, family and age roles.

The master's program was established in 1964 and has annually enrolled 15-25 graduate students. The program's graduates enjoy considerable career success. Some have pursued the Ph.D. degree at major research universities such as University of Wisconsin-Madison, Indiana University, UC-Santa Barbara, Notre Dame, University of Texas and SUNY- Albany, while others have found their skills marketable in a wide variety of other fields.

Graduate Faculty

Professors

Greer, Ann L., Ph.D., Northwestern University
Mathiowetz, Nancy, Ph.D., University of Michigan, Chair
Montgomery, Rhonda, Ph.D., University of Minnesota
Velez, William, Ph.D., Yale University
Wilson, Frank H., Jr., Ph.D., University of Michigan

Associate Professors

Bharadwaj, Lakshmi, Ph.D., University of Wisconsin-Madison
Costello, Carrie Yang, Ph.D., University of California-Berkeley
Edari, Ronald, Ph.D., Northwestern University
Frankfort-Nachmias, Chava, Ph.D., University of Oregon
Green, Donald, Ph.D., University of Minnesota
Jordan, Jennifer, Ph.D., University of California, San Diego
Oliker, Stacey J., Ph.D., University of California-Berkeley
Redding, Kent, Ph.D., University of North Carolina-Chapel Hill

Assistant Professors

Aneesh, A., Ph.D., Rutgers University
Chang, Kuang-chi, Ph.D., University of Chicago
Chesley, Noelle, Ph.D., Cornell University

Master of Arts in Sociology

Admission

New graduate students are admitted to the MA Program in Sociology only for the fall semester. Completed applications should be received by the department no later than January 15 of the year the applicant intends to start.

Applicants whose grade point averages are below the minimum 2.75 required by the Graduate School may be admitted on probation if there is substantial evidence of their ability to do satisfactory graduate work. Performance during the first semester of enrollment must convince the members of the Graduate Committee of the students' capacity to do graduate work.

In addition to the materials required by the Graduate School for admission, the Department of Sociology requires the following for admission:

1. Three letters of recommendation from persons familiar with the applicant's academic background. The Department provides a cover sheet that should accompany all letters of recommendation. The form is signed by both the applicant and the person providing the reference. Letters should be sent to the Director of Graduate Studies, Department of Sociology, P.O. Box 413, Milwaukee, WI 53201.
2. A sample of scholarly writing, a minimum of five pages in length.

The Graduate Record Exam (GRE) (Institution code: 1473, Department Code: 2102) is required for the following applicants:

- Those who wish to be considered for a Graduate School Fellowship or a Teaching Assistantship.
- Those who received their undergraduate degree from an institution that does not assign an undergraduate GPA.
- Those whose overall undergraduate GPA is less than 2.75 (on a 4.0 scale).

Financial Aid

The major source of financial assistance for graduate students in sociology is employment as a teaching assistant. Assistantships are granted every academic year on a competitive basis. To apply for a teaching assistantship, students should complete a Teaching Assistantship Interest Form and submit it to the Director of Graduate Studies. The deadline for receipt of that form is January 15th.

Students with teaching assistantships are usually appointed at 33% of full-time work during their first year. When feasible, the department attempts to appoint 2nd year students at 50%. Tuition is remitted for all teaching assistants with a 33% or higher appointment.

Graduate students also are eligible for fellowships awarded by the Graduate School on a competitive basis. Additional information on the types and availability of fellowships may be obtained directly from the Graduate School.

Advising Procedures

Upon admission, the Director of Graduate Studies will serve as the student's advisor. An interim advisor will be assigned in the student's first semester in residence. The interim advisor assists students in planning their course programs, and in scheduling other degree requirements. When the MA student begins to formulate a topic for a thesis, a master's paper, or MA examination, the student selects a member of the Sociology Graduate faculty as her/his committee chair. This person then becomes the student's main curriculum advisor for the remainder of the time in the program.

Credits and Courses

The MA in Sociology requires a minimum of 30 graduate credits. Thirteen (13) credits are fulfilled by the following required courses:

701 Professional Seminar (1 cr)
715 Systematic Sociological Theory (3 cr)
750 Research Methods in Sociology (3 cr)
760 Advanced Statistical Methods in Sociology (3 cr)
900-level sociology seminar course (3 cr)

The student, in consultation with his/her advisor, will select the remaining 17 elective credits. Up to five credits of Sociol 990, Thesis/Paper, may be taken by students who elect the thesis/paper capstone option.

With permission of the student's advisor, up to six graduate credits may be taken outside the department in courses related to the individual's plan of study. No more than six credits of undergraduate/graduate courses (excluding those previously taken as an undergraduate), taken at the graduate level, may be applied toward meeting degree requirements. No more than six credits in Sociol 999, Reading and Research, may count toward the degree.

Good Standing

To retain good standing in the Department of Sociology, an enrolled graduate student must maintain a minimum 3.0 cumulative GPA and demonstrate progress toward completion of the course and/or thesis requirements each semester.

Thesis, Master's Paper, or the MA Examination Options

The student must write and defend an acceptable thesis, a master's paper, or write an examination in fulfillment of the requirements for the Master of Arts degree in Sociology.

Thesis or Master's Paper

The thesis or master's paper is intended to be a relatively limited research exercise, focused on a manageable topic. It does not necessarily have to involve original research. It is completed through enrollment in Sociol 990. Acceptable thesis or master's paper options include, but are not limited to, collection of data for hypothesis testing or exploratory research, secondary analysis of available data, theoretical critique, conceptual analysis and library research on a clearly defined problem. In general, students are encouraged to utilize existing data rather than collect new data unless they are confident that they have adequate resources (including time) to collect data sufficient for their purposes.

By the end of the third semester, students should complete a proposal for the MA thesis or paper. The proposal will reflect the formulation of a research problem and the development of a plan for its empirical investigation. Once a proposal is successfully defended, it constitutes an agreement between the student and the M.A. committee.

Students must prepare the thesis or master's paper under the direction of their committee, receive approval that it meets professional standards, and defend it at an oral examination. The master's paper is normally the length of a journal article (about 30 pp.). Students who choose to write a thesis should consult the Graduate School Thesis and Dissertation Formatting page. The thesis must be prepared according to these format requirements.

MA Examination

The Master of Arts examination option is based on a bibliography developed by the student in consultation with his/her committee. The bibliography will represent both classical statements and recent debates in at least one area of sociological specialization. Students are encouraged to develop the bibliography by the end of the third semester of residence.

The examination itself will be a set of three questions developed by the MA committee, from which the student must choose two. The student will have two weeks to write a take-home examination. The advisor and two other faculty members will grade the examination. Within two weeks of the completion of the written examination, there will be an oral examination on the same material.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

376 Modern Sociological Theory. 3 cr. U/G.
Major theoretical paradigms including functionalism, conflict and dialectical models, exchange theory, symbolic interactionism, and social phenomenology.. Prereq: jr st; Sociol 101 (P) & 375(R); or grad st.

423 Immigration and Incorporation: (Subtitled). 3 cr. U/G.
Institutional, geo-political, demographic, comparative, and social network theoretical perspectives on migration to and incorporation into the United States. Prereq: jr st; 3 cr in Sociol at 200-level or above; addl prereqs may be assigned for specific topics.

440 Sociology of the Family. 3 cr. U/G.
Family patterns and ideologies in relation to broader social structure and culture, sources of variety and change in household, family, and kinship organization. Prereq: jr st; 6 cr in Sociol at 200-level or above.

443 Organizations, Occupations, and Professions. 3 cr. U/G.
Development of occupations and professions in industrial societies. Study of professional concepts, ethical codes, work norms, specialization, recruitment, education, and work roles in an organizational context. Prereq: jr st & Sociol 101(P) or 104(P); or grad st.

444 Sociology of the Body. 3 cr. U/G.
How the body is shaped by social forces. Relationship between the body, identity, and culture, focusing on gender, race/ethnicity, and disability. Prereq: jr st & any Sociol course; or grad st.

448 Sociology of Children and Adolescents. 3 cr. U/G.
Theoretical perspectives and research methods addressing substantive issues in children's and adolescents' lives, including peer cultures, schooling, families, gender, race, class, health, and work. Prereq: jr st & any Sociol course; or grad st.

495 Seminar in Sociology: (Subtitled). 3 cr. U/G.
Intensive study in a selected area of Sociology. Designed to encourage discussion, debate, and critical thinking. Retakable w/chg in topic to 6 cr max. Prereq: jr st; 6 cr 200-level or above Sociol or cons instr.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

610 Reproduction of Minority Communities. 3 cr. U/G.
Analysis of the social, economic, and cultural forces behind the formation and reproduction of minority and disadvantaged communities in the United States. Jointly-offered w/& counts as repeat of Ed Pol 610. Prereq: jr st; any Sociol 100-level course.

700 Proseminar: Sociological Inquiry. 3 cr. G.
Fundamentals of academic and sociological reading, writing, and thinking. Orientation to graduate study, the sociological profession, and the tools of sociological research. Prereq: grad st.

701 Professional Seminar. 1 cr. G.
Fundamentals of academic and sociological reading, writing, and thinking. Orientation to graduate study, the sociological profession, and the tools of sociological research. Prereq: grad st

704 Seminar in Nonprofit Organizations. 3 cr. G.
Overview of structure, functions, and governance of nonprofit organizations. Comparison with government and for-profit organizations. Pol Sci 704, Sociol 704, & Urb Std 704 are jointly offered; they count as repeats of one another. Prereq: grad st.

715 Systematic Sociological Theory. 3 cr. G.
A general examination of sociological theories, their construction, problems of conceptualization, and methodological requirements. Prereq: grad st.

750 Research Methods in Sociology. 3 cr. G.
Application of scientific methods to the analysis of social phenomena, methodological orientations in sociology, types of research procedure, and nature of sociological variables. Prereq: grad st.

752 Fundamentals of Survey Methodology. 3 cr. G.
Seminar in the principles of survey design that are the basis of standard practices in the field of sociology. Prereq: grad st.

754 Questionnaire Design. 3 cr. G.
Seminar in the design, evaluation, pretesting, ordering, and formatting of questions and questionnaires. Prereq: grad st.

760 Advanced Statistical Methods in Sociology. 3 cr. G.
Review of elementary statistics. Probability theory and its applications. Multivariate analysis. Nonparametric statistical inference. Measurement theory. Selected statistical models for hypothesis testing and theory construction. Prereq: grad st; score of 85 on dept diagnostic examination.

794 Proseminar: The Teaching of Undergraduate Sociology. 0 cr. G.

Designed to prepare and support new teachers of undergraduate Socioloy. Fee for 1 cr assessed. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirements. Fee for 1 cr assessed. Prereq: grad st.

901 Seminar: Urban Social Structure. 3 cr. G.
Comprehensive analysis of the emergence and institutionalization of cultural and social patterns in urban settings; and future American urban social structures. Sociol 901 & Urb Std 901 are jointly-offered & count as repeats of one another. Prereq: grad st.

920 (780) Seminar in Race and Ethnic Relations. 3 cr. G.
Patterns of racial and ethnic differentiation and how they originate and change over time. Prereq: grad st.

927 Seminar in Sociology of Contemporary Institutions: (Subtitled). 3 cr. G.
Analysis of major social institutions in modern societies in terms of status orders, division of labor, normative systems, processes of social change, and conflict. Specific topics and any additional prerequisites announced in Schedule of Classes each time course is offered. Retakable w/chg in topic & cons adviser to 9 cr max. Prereq: grad st.

928 Seminar in Social Organization: (Subtitled). 3 cr. G.
Study of conceptual approaches used in analyzing social organization: social stratification, complex organization, urbanization, small groups in mass society. Specific topics and any additional prerequisites announced in schedule of classes each time course is offered. Retakable w/chg in topic & cons advisor to 9 cr max. Prereq: grad st.

940 Applied Gerontology Capstone I. 1 cr. G.
Professional socialization seminar emphasizing the interdisciplinary nature of gerontology and exposing students to professional and library resources for continuing professional development. Sociol 940 and Soc Wrk 940 are jointly offered; they count as repeats of one another. Prereq: grad st; Nurs 760(P) & Soc Wrk 851(P).

941 Applied Gerontology Capstone II. 1-2 cr. G.
Teamwork applied research project conducted in collaboration with a community-based organization that serves the elderly; presentation of findings to a professional audience. Sociol 941 and Soc Wrk 941 are jointly offered; they count as repeats of one another. Students who intend to prepare a manuscript for publication enroll for 2 crs; all others enroll for 1 cr. Prereq: grad st; Sociol or Soc Wrk 940(P).

942 The Family and Long-Term Care. 3 cr. G.
Seminar on the role of family in providing long term care. Social values, public policies, and consequences for individuals and society. Sociol 942 & Soc Wrk 942 are jointly offered; they count as repeats of one another. Prereq: grad st.

951 Seminar in Research Methodology. 3 cr. G.
Discussion of selected topics in research design, research methods, statistical analysis, and model construction. Retakable to 9 cr max with cons adviser. Prereq: grad st.

979 Methods of Research and Analysis for Urban Social Institutions I. 3 cr. G.
Seminar on logic, design, and presentation of social science research. Inductive and qualitative methods, theory construction, and ethics and procedures of research in natural settings. Sociol 979 & Urb Std 979 are jointly-offered; they count as repeats of one another. Prereq: grad st.

982 Methods of Research and Analysis for Urban Social Institutions II. 3 cr. G.
Evaluation of different methods of generating data and their applications to the analysis of public policies and programs. Sociol 982 & Urb Std 982 are jointly offered; they count as repeats of one another. Prereq: grad st; min. score of 85 on dept diagnostic exam.

990 Thesis/Paper. 1-3 cr. G.
- Open only to students completing the thesis/paper capstone. Retakable to 5 cr max. Prereq: grad st in Sociol MA prog; cons major prof.

999 Reading and Research. 1-3 cr. G.
Independent study of a topic selected by a student after consultation with member of graduate faculty. Retakable w/chg in topic to 6 cr max. Prereq: grad st; cons instr.

SPANISH

- Phone: (414) 229-4257
- Fax: (414) 229-4857
- E-mail: oxford@uwm.edu

School/College: College of Letters and Science

Degrees Conferred:

- MA in Spanish

Overview

The Department of Spanish and Portuguese offers a program of graduate study leading to a Master of Arts degree that focuses on the study of the Spanish cultures, language, linguistics, and literatures of the Hispanic world. Spanish M.A. graduates who subsequently wish to pursue the Ph.D. are very advanced in the process of mastering the area in which they wish to specialize in their doctoral studies. Those who choose not to continue studying toward a Ph.D. or a career in teaching will be able to pursue employment in other fields that require full proficiency in the Spanish language as well as mastery of Hispanic literature and culture.

The Department of Spanish and Portuguese has identified five learning outcomes for our M.A. majors in Spanish. These educational goals relate closely to the National Standard for Foreign Language Learning, as recommended by the American Council of Teachers of Foreign Languages.

Students will be able:

1. To communicate with an advanced or high-level of Spanish proficiency in all four skill areas including listening, reading, writing, and speaking.
2. To develop an advanced understanding and appreciation of Hispanic cultures and communities throughout the world, and analyze and draw cross-cultural differences which will be essential to future careers in a growing global environment.
3. To build a foundation of knowledge in the areas of Spanish or Spanish-American literature, culture, and linguistics, which will give students the breadth necessary for subsequent specialization in doctoral studies.
4. To develop and expand research and analytical skills within the area of Hispanic Studies, including literary analysis, cultural studies, and linguistic analysis.
5. To develop basic reading competencies in an additional romance language to prepare students for further research and provide broader career options.

The Department also participates, and works closely, with the Center for Latin American and Caribbean Studies.

Graduate Faculty

Professor

Oxford, Jeffrey, Ph.D., Texas Tech University

Associate Professors

Ferreira, Cesar, Ph.D., University of Texas-Austin

McCaw, John, Ph.D., Princeton University

Rei-Doval, Gabriel, Ph.D., University of Santiago de Compostela, Galicia

Wheatley, Kathleen, Ph.D., University of Michigan

Assistant Professors

Bird-Soto, Nancy, Ph.D., University of Wisconsin-Madison

Melgarejo Acosta, Maria del Pilar, Ph.D., University of Pittsburgh

Master of Arts in Spanish

Admission

An applicant must meet general admission requirements for the Graduate School, as established by the graduate faculty of the university, plus the following requirements to be considered for admission:

1. A bachelor's degree with a major in Spanish, foreign languages with an emphasis in Spanish, comparative literature, Hispanic linguistics, or translation; or with a combination of courses that will, in the opinion of the Department, allow the student to participate fully in the program.

2. A 3.0 grade point average in the last 60 credits of undergraduate course work.

3. A narrative statement of intent, written in Spanish that describes the applicant's accomplishments and plans for the future.

4. Three letters of recommendation from former professors or advisors.

Applicants who do not have the requisite 3.0 grade point average in the last 60 credits of the undergraduate degree may be considered for admission on probation. Students will be removed from probation at the end of their first semester of enrollment if they achieve at least a 3.0 grade point average.

Major Professor as Advisor

All students must have a major professor who serves as an advisor and supervises their course of study. The Director of the MA program acts as the initial advisor for all entering students. By the end of the first semester, students will be matched with an advisor based on their academic interest.

Credits and Courses

A content-based examination is mandatory for all incoming students. The results of this examination are used to develop the program of study. Students with insufficient preparation for graduate study in one or more areas may be admitted with specific, program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Those who have not completed at least one advanced-level college course in Latin American or Spanish history must do so in the course of their graduate program. If taken for graduate credit, this course will count toward the minimum number of credits required for the M.A.

A minimum of 30 graduate credits beyond the baccalaureate degree is required for the MA in Spanish. All students must demonstrate reading competency in a second Romance language. In order to do so, they may take the departmental graduate reading exam or complete two semesters or eight credits in another language. Courses taken to complete this requirement do not count toward the minimum credits required for the M.A.

Specific course requirements and credit distribution are as follows:

- Spanish 441 History of the Spanish Language (or equivalent);
- MAFLL/Comp Lit 707 Seminar in Literary Analysis (or equivalent).
- 12 credits in Spanish or Spanish-American literature and culture courses at the 700 level or above.
- 6 credits in language and/or linguistics courses in Spanish.
- 6 credits of electives in Spanish culture, language, linguistics, literature, thesis, or related courses

All teaching assistants are required to enroll in MAFLL 706 Seminar in Foreign Language Methodology and Pedagogy or an equivalent course during their first year. This course counts toward the 6 credits of electives.

No 300-level courses will apply toward the degree, and a maximum of six (6) graduate credits in 400-level U/G courses may be used to fulfill degree requirements.

The MA degree in Spanish offers both non-thesis and thesis options.

Non-Thesis Option

Students pursuing the non-thesis option must complete a minimum of thirty (30) credits of acceptable graduate level course work (including the courses specifically required) and receive a passing grade on the final comprehensive examination.

Thesis Option

Students pursuing the thesis option must complete a minimum of twenty four (24) credits of acceptable graduate level course work, successfully defend a thesis for which a maximum of six (6) credits is granted, and receive a passing grade on the final comprehensive examination.

Students in the thesis option should choose an area of specialization for the thesis as early as possible. After a thesis topic is chosen, students, with the approval of the major professor, select two additional members of the graduate faculty in the area of concentration to serve as the thesis committee. A member of the graduate faculty specializing in the student's area of concentration acts as the thesis director and chair of the committee. Students writing a linguistics-based thesis may use either the APA, LSA, or MLA style. All other theses must be written following the MLA style.

Comprehensive Final Examination

Students enrolled in the thesis and non-thesis options take the same M.A comprehensive examination. Students are urged to take the examination no later than the fourth semester of graduate study. The examination may be repeated once.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Courses - Spanish

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

341 Introduction to Hispanic Linguistics. 3 cr. U/G.
Spanish linguistics, including phonetics, phonology, syntax, morphology, semantics, and sociolinguistics. Generates L&S credits for demonstrated equivalent preparation (14 retro cr). Prereq: jr st; Spanish 308(P).

347 Introduction to Translation: Spanish to English. 3 cr. U/G.
Basic skills necessary for professional translation. Translation of texts from Spanish into English. Summarizing texts; sight translation. Prereq: jr st; Spanish 308(P); grade of C or better in English 102(R) or score at level 4 on EPT recom.

348 (effective 01/26/2009) Introduction to Translation: English to Spanish. 3 cr. U/G.
Basic skills necessary for professional translation. Translation of texts from English into Spanish. Summarizing texts; sight translation. Spanish 348 & Trnsltn 348 are jointly offered; they count as repeats of one another. Prereq: jr st; Spanish 308(P); grade of C or better in English 102(R) or score at level 4 on EPT recom.

348 Introduction to Translation: English to Spanish. 3 cr. U/G.
Basic skills necessary for professional translation. Translation of texts from English into Spanish. Summarizing texts; sight translation. Prereq: jr st; Spanish 308(P); grade of C or better in English 102(R) or score at level 4 on EPT recom.

349 Introduction to Interpreting. 3 cr. U/G.
Spanish-English interpreting in legal, medical, social service, and education contexts. Consecutive interpreting with some attention to simultaneous interpreting. Spanish 349 & Trnsltn 349 are jointly offered; they count as repeats of one another. Prereq: jr st; Spanish 318(P) or 319(P) or cons instr.

377 Introduction to Galician Culture. 3 cr. U/G.
Main concepts and issues in understanding the unique culture of Galicia, in northwestern Spain, from a variety of perspectives. Prereq: jr st; Spanish 308(P); Spanish 318(P) or 319(P); cons instr.

411 The Enlightenment in Spain: 3 cr. U/G.
Topics on the poetry, the narrative, and the didactic prose and/or the drama of the 18th century. Retakable w/chg in topic to 6 cr max. Prereq: Spanish 350(P) & 351(P), or writ cons dept.

441 History and Dialects of the Spanish Language. 3 cr. U/G.
External and internal history of the language, including an introduction to the study of Spanish dialects. Prereq: jr st; Spanish 341(P).

443 (340) Spanish Phonetics and Phonology. 3 cr. U/G.
Theory of Spanish sounds; phonetic transcription; practice in pronunciation. Language lab may be required. Prereq: jr st; Spanish 341(P).

444 (344) Spanish Syntax and Morphology. 3 cr. U/G.
Comprehensive review of Spanish syntax and morphology; the meaning of words, sentences, and discourse. Prereq: jr st; Spanish 341(P).

446 Hispanic Sociolinguistics. 3 cr. U/G.
Critical analysis of the relationship between language and society in the Hispanic world. Prereq: jr st; Spanish 341(P).

447 Seminar in Advanced Translation: Spanish to English. 3 cr. U/G.
Comparative study of Spanish and English syntax; advanced translation (Spanish to English) of texts from the humanities, social and political sciences, technical writing, advertising. Satisfies L&S Seminar req. Prereq: jr st; Spanish 347(P) or writ cons dept; grade of C or better in English 102(R) or score at level 4 on EPT recom.

448 (effective 01/26/2009) Seminar in Advanced Translation: English to Spanish. 3 cr. U/G.
Comparative study of Spanish and English syntax; advanced translation (English to Spanish) of texts from the humanities, social and political sciences, technical writing, advertising. Spanish 448 & Trnsltn 448 are jointly offered; they count as repeats of one another. Prereq: jr st; Spanish 348(P) or writ cons dept; grade of C or better in English 102(R) or score at level 4 on EPT recom.

448 Seminar in Advanced Translation: English to Spanish. 3 cr. U/G.
Comparative study of Spanish and English syntax; advanced translation (English to Spanish) of texts from the humanities, social and political sciences, technical writing, advertising. Prereq: jr st; Spanish 348(P) or writ cons dept; grade of C or better in English 102(R) or score at level 4 on EPT recom.

449 Advanced Court Interpreting. 3 cr. U/G.
Theory and practice of court interpreting; vocabulary building; development of skills necessary for consecutive and simultaneous interpretation and sight translation. Listening skills, note-taking, memory techniques. Prereq: Spanish 349(P) or cons instr.

449 (effective 01/26/2009) Advanced Court Interpreting. 3 cr. U/G.
Theory and practice of court interpreting; vocabulary building; development of skills necessary for consecutive and simultaneous interpretation and sight translation. Listening skills, note-taking, memory techniques. Spanish 449 & Trnsltn 449 are jointly offered; they count as repeats of one another. Prereq: jr st; Spanish 349(P) or cons instr.

461 (365) Topics in Hispanic Culture: (Subtitled). 3 cr. U/G.
The culture of a group of Hispanic people from a particular social and/or historical perspective, with a focus on one or more manifestations of that culture. Retakable w/chg in topic to 9 cr max. Prereq: jr st & 6 crs of 400-level Spanish.

470 Survey of Hispanic Literature and Civilization. 3 cr. U/G.
Literature in Spain and Spanish America from the Middle Ages to 1880. Prereq: jr st; Spanish 350(P).

472 Survey of Spanish-American Literature and Civilization. 3 cr. U/G.

Literature in Spanish America from Modernism to the present. Prereq: jr st; Spanish 350(P).

474 Survey of Spanish Literature and Civilization. 3 cr. U/G.
Literature in Spain from Realism to the present. Prereq: jr st; Spanish 350(P).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, contact, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

506 Seminar on Spanish Literature: (Subtitled). 3 cr. U/G.
One or more areas of Spanish peninsular literature across periods, genres, or regions. Retakable w/chg in topic to 6 cr max. Prereq: jr st; Spanish 470(P) & 474(P).

507 Seminar on Spanish-American Literature: (Subtitled). 3 cr. U/G.
One or more areas of Spanish-American literature across periods, genres, or regions. Retakable w/chg in topic to 6 cr max. Prereq: jr st; Spanish 470(P) & 472(P), & 474(P).

508 Seminar on Hispanic Literature: (Subtitled). 3 cr. U/G.
A literary subject with manifestations in more than one Hispanic literature, including Latino literature, with focus on the differences between/among them. Retakable w/chg in topic to 6 cr max. Prereq: jr st; Spanish 470(P), 472(P), & 474(P).

545 (445) Seminar on Hispanic Linguistics: (Subtitled). 3 cr. U/G.
One or more branches of linguistics, such as dialectology, pragmatics, sociolinguistics, historical linguistics, etc., in relation to the Hispanic languages. Retakable w/chg in topic to 9 cr max. Prereq: 6 cr from Spanish 441(P), 443(P), 444(P), & 446(P).

570 (405) Seminar in Spanish Golden Age Literature: (Subtitled). 3 cr. U/G.
Topics on the poetry and/or the narrative and didactic prose of the late sixteenth and the seventeenth centuries. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 474(P).

571 (453) Seminar in Spanish-American Colonial Literature and Civilization: (Subtitled). 3 cr. U/G.
Poetry, narrative, didactic prose, and dramatic literature of Spanish America up to the eighteenth century. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 472(P).

572 (409) Seminar on Cervantes: (Subtitled). 3 cr. U/G.
'Don Quixote' and/or other works by Cervantes. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 474(P).

575 (455) Seminar on 18th & 19th Century Spanish-American Literature & Civilization: (Subtitled). 3 cr. U/G.
Topics on the poetry, fiction, drama and/or essay of the Spanish-American countries during the 18th and 19th centuries. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 472(P).

577 (457) Seminar on Modern Spanish-American Literature and Civilization: (Subtitled). 3 cr. U/G.
Topics on the poetry, fiction, essay, and/or drama of the Spanish American countries after 1888. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 472(P).

578 (417) Seminar on Modern Spanish Literature and Civilization: (Subtitled). 3 cr. U/G.
Topics on the poetry, fiction, and/or drama of twentieth- and twenty-first-century Spain. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 474(P).

580 (415) Seminar on Spanish Romanticism and Realism: (Subtitled). 3 cr. U/G.
Topics on the poetry, fiction, and/or drama of the nineteenth century in Spain. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P), 472(P) & 474(P).

700 (706) Practicum in Spanish Language Teaching Methods. 1 cr. G.
Practical application within Spanish of methods and concepts taught in MAFLL 700. Retakable to 2 cr max. Prereq: grad st; MAFLL 700(C) or cons instr.

701 Historical Grammar. 3 cr. G.
Evolution of grammatical structures from Latin to medieval Spanish and from medieval to modern Spanish. Prereq: grad st; Spanish 340(R) & 344(R).

701 (effective 01/26/2009) Historical Linguistics. 3 cr. G.
Evolution of the language from Latin to medieval Spanish and from medieval to modern Spanish, including contemporary varieties. Prereq: grad st; Spanish 341(R) or equiv.

703 Seminar on Language and Society: (Subtitled). 3 cr. G.
Analysis and discussion of advanced issues on the interaction between language and society in the Hispanic world and/or different areas of interest. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

705 Seminar in the Structure of the Spanish Language: 3 cr. G.
Selected problems in Spanish linguistics. Prereq: grad st.

707 Introduction to Translation: Spanish to English. 3 cr. G.
Basic skills necessary for professional translation. Translation of texts from Spanish into English. Summarzing texts; sight translation. Spanish 707 & Trnsltn 707 are jointly offered; they count as repeats of one another. Not open for cr to students w/grad cr in Spanish 347. Prereq: grad st; Spanish 308(P) or equiv.

717 Seminar in Advanced Translation: Spanish to English. 3 cr. G.
Comparative study of Spanish and English syntax; advanced translation (Spanish to English) of texts from the humanities, social and political sciences, technical writing, advertising. Spanish 717 & Trnsltn 717 are jointly offered; they count as repeats of one another. Not open for cr to students w/grad cr in Spanish 447. Prereq: grad st; Spanish 707(P) or grad cr in Spanish 347(P), or writ cons Trnsltn coord.

751 Seminar in Medieval Literature and Related Topics: 3 cr. G.
- Retakable w/chg in topic to 6 cr max. Prereq: grad st.

755 Seminar in Renaissance Literature and Related Topics: 3 cr. G.
- Retakable w/chg in topic to 6 cr max. Prereq: grad st.

757 (753) Seminar in One or More Areas of Siglo de Oro Literature and Related Topics: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

763 Seminar-Romantic Literature in Spain &/or Spanish America & Related Topics: 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

767 Sem on Realistic Literature in Spain &/or Spanish America & Related Topics: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

768 Naturalism and Its Influences. 3 cr. G.
A study of Naturalism and its influences in Spain during the 19th, 20th, and 21st centuries. Prereq: grad st.

769 (765) Seminar in 20th Century Literature of Spain and/or Spanish America & Related Topics: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 9 cr max. Prereq: grad st.

770 The Modern Spanish Novel. 3 cr. G.
A study of the novel in Spain since the death of Franco in 1975. Prereq: grad st.

771 Seminar in Early Spanish American Literature and Related Topics: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 6 cr max. Prereq: grad st.

781 Seminar in Hispanic Literature: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 6 cr max. Prereq: grad st.

782 Modern Spanish Women Writers. 3 cr. G.
A study of women writers of Spain during the 20th and 21st centuries. Prereq: grad st.

783 Seminar in Latino Literature and Related Topics: (Subtitled). 3 cr. G.
- Retakable w/chg in topic to 6 cr max. Prereq: grad st.

785 Detective Fiction of Spain. 3 cr. G.

A study of the detective genre in the literature of Spain. Prereq: grad st.

791 Spanish Culture and Related Topics: (Subtitled). 3 cr. G.

An in-depth examination of the culture of Spain with special attention paid to the history of the country and to the formation of a Spanish identity. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

793 Spanish American Culture and Related Topics: 3 cr. G.

In-depth examination of the development of a Latin American culture with a focus on key aspects of that culture after independence. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

795 Hispanic Culture: (Subtitled). 3 cr. G.

The culture of the Hispanic people from a variety of perspectives with a focus on one or more manifestations of it. Topic to be announced. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

799 Independent Work. 1-3 cr. G.

Supervised study with a member of the graduate faculty. Retakable w/chg in topic to 6 cr max. Prereq: grad st; cons instr.

799 (effective 01/26/2009) Independent Study. 1-3 cr. G.

Individual program of supervised study in the student's area of emphasis or interest, different from content of course offerings, supervised by a graduate faculty. Topics selected in agreement with and the approval of supervising professor. Retakable w/chg in topic to 3 cr max. Prereq: grad st; 3.0 gpa in Spanish grad courses, writ cons instr & dept chair.

Courses - Foreign Language and Literature

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

700 Language Teaching Methods. 3 cr. G.

Introduction to practical issues of language instruction for new teaching assistants and language teachers; explores some theoretical issues related to second- and foreign language learning. Prereq: grad st; cons MAFLL coord comm chair

702 Seminar in Literary Forms: (Subtitled). 3 cr. G.

Study of specific forms and genres (narrative, epic, lyric, dramatic, etc) stressing the effects of compositional patterns and expressive modes on the representation of content. Specific topics and any additional prerequisites announced in schedule of classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons MAFLL coord comm chair.

703 Seminar in Language and Communication: (Subtitled). 3 cr. G.

Survey of basic theories on the nature of language and of the modes of verbal communication, with emphasis on the socio-cultural aspects. Prereq: grad st; cons MAFLL coordinator; proficiency in a language other than english.

704 Seminar in Cultural Studies: (Subtitled). 3 cr. G.

Investigation of cultural phenomena in their socio-historical contexts in their symbolization in folklore, literature, and art. Specific topics and any additional prereqs announced in the Schedule of Classes each time course is offered. CompLit 704 & MAFLL 704 are jointly offered; they count as repeats of one another. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons MAFLL coord comm chair.

706 Seminar in Foreign Language Methodology and Pedagogy. 3 cr. G.

Nature and direction of recent developments in foreign language methodology and instructional principles. Prereq: grad st; cons MAFLL coord comm chair.

707 (701) Seminar in Methods of Literary Analysis: (Subtitled). 3 cr. G.

Two or more theoretical and methodological approaches to literature, with application to selected literary texts. Specific topics and any additional prerequisites announced in Schedule of Classes each time course is offered. CompLit 707 & MAFLL 707(701) are jointly offered; they count as repeats of one another. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons MAFLL coord comm chair.

708 Proseminar in Linguistics. 3 cr. G.

Presents a range of linguistic constructs, demonstrating through readings, problems, and exercises how these concepts can be used in the analysis of language. Linguis 708(701) & MAFLL 708 are jointly offered; they count as repeats of one another. Prereq: grad st.

709 Seminar in Literary and Cultural Translation. 3 cr. G.

Study and practice of literary translation in its cultural setting. Discussion of essays, analysis of published translations, translation practice, and collegial discussion of students' work. MAFLL 709 & Trnsltn 709 are jointly offered; they count as repeats of one another. Prereq: grad st.

710 Comparative Systems for Translation. 3 cr. G.

Comparative systems in society; how those systems relate to field of translation; how to make informed translation choices based on subtle differences in systems. MAFLL 710 & Trnsltn 710 are jointly offered; they count as repeats of one another. Prereq: grad st

712 Bibliographic and Research Methodology in Foreign Language and Literature. 1 cr. G.

Discussion of types of research in languages and literatures, bibliographic resources and sources of research support. Prereq: grad st; cons FLL coord comm chair.

721 The Old Testament in Literature and the Arts. 3 cr. G.

The impact of the Old Testament on literature and the arts; its influence on major subsequent reliqious classics and through them on music, philosophy, and the visual arts. Prereq: grad st.

725 Computers in Language and Literature Research. 3 cr. G.

Discusses the scope of linguistic and literary computing, available package programs and the suitability of various computer languages. Offers hands-on programming. Prereq: grad st; CompSci 151 or equiv.

728 Literary Translation. 3 cr. G.

Seminar in literary translation focusing on various genres including prose, poetry, essays, and theater; publication and copyright matters. Prereq: grad st; admission to Translation Program.

740 Approaches to the Modern I. 3 cr. G.

Seminar on the major figures and intellectual forces that have shaped multiple approaches to the modern across the academy. English 740, Hist 740, & MAFLL 740 are jointly offered; they count as repeats of one another. Prereq: grad st.

741 Approaches to the Modern II. 3 cr. G.

Seminar on major figures and intellectual forces that have shaped approaches to the modern across periods. English 741, Hist 741 & MAFLL 741 are jointly offered; they count as repeats of one another. Prereq: grad st.

781 Graduate Study Abroad: Language and Culture: (Subtitled). 1-3 cr. G.

Coursework in a foreign language or culture taken in a UWM exchange program at a foreign university; subject to review and evaluation of the MAFLL program faculty. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons MAFLL coord comm chair.

782 Graduate Study Abroad: Pre-1900 Literature: (Subtitled). 1-3 cr. G.

Coursework in pre-1900 literature taken in a UWM exchange program at a foreign university; subject to review and evaluation of the MAFLL program faculty. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons MAFLL coord comm chair.

783 Graduate Study Abroad: Post-1900 Literature: (Subtitled). 1-3 cr. G.

Coursework in post-1900 literature taken in a UWM exchange program at a foreign university; subject to review and evaluation of the MAFLL program faculty. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons MAFLL coord comm chair.

790 Thesis. 1-6 cr. G.

Independent study and research on a master's thesis under supervision of the student's advisory committee. Retakable to

6 cr max. Prereq: grad st; cons advisory committee.

791 Reading and Research - Greek or Latin. 1-3 cr. G.
Reading and research under the direction of a member of the MAFLL faculty. Prereq: grad st.

792 Reading and Research - Comparative Literature. 1-3 cr. G.
Reading and research under the direction of a member of the MAFLL faculty. Prereq: grad st.

793 Reading and Research - French or Italian. 1-3 cr. G.
Reading and research under the direction of a member of the MAFLL faculty. Prereq: grad st.

794 Reading and Research - German. 1-3 cr. G.
Reading and research under the direction of a member of the MAFLL faculty. Prereq: grad st.

795 Reading and Research - Hebrew or Arabic. 1-3 cr. G.
Reading and research under the direction of a member of the MAFLL faculty. Prereq: grad st.

796 Reading and Research - Language. 1-3 cr. G.
Reading and research under the direction of a member of the MAFLL faculty. Prereq: grad st.

797 Reading and Research - Polish or Russian or Serbo-Croatian. 1-3 cr. G.
Reading and research under the direction of a member of the MAFLL faculty. Prereq: grad st.

798 Reading and Research - Spanish or Portuguese. 1-3 cr. G.
Reading and research under the direction of a member of the MAFLL faculty. Prereq: grad st.

799 Reading and Research. 1-3 cr. G.
Directed reading and research on a topic selected by the student in consultation with his/her advisory committee. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee assessed for 1 cr. Prereq: grad st.

URBAN EDUCATION

- Phone: (414) 229-4729
- Fax: (414) 229-2920

School/College: School of Education

Degrees Conferred:

- PhD in Urban Education

Overview

The School of Education offers an interdepartmental program of study leading to the PhD. Students must choose a specialization in either Adult and Continuing Education, Educational Administration, Curriculum and Instruction, Educational and Media Technology, Exceptional Education, Multicultural Studies, or Social Foundations of Education.

The program is designed to permit students to integrate their particular curricular areas of interest and specialization with a broader field of education, including urban education. Each specialization is departmentally focused, and students must satisfy the admissions and curriculum requirements indicated for their particular specialization. Recognition of the specialization is acknowledged by official designation on the student's transcript.

Each of the specializations offers the doctoral student an opportunity to pursue study in a specific program area. For example, Adult and Continuing Education emphasizes governance and leadership issues within urban adult education organizations. Educational Administration explores governance and Leadership issues of urban schools. Curriculum and Instruction provides program emphasis in a content area (e.g., reading), education level (e.g., early childhood), a general area (e.g., curriculum theory) or special area (e.g., guiding instructional improvement). Educational and Media Technology emphasizes the use and importance of information technology and applying the technology to learning. Exceptional Education provides program emphasis in departmental interest areas (e.g., handicapping condition), or a cross-disciplinary interest.

A separate PhD with specialization in Counseling Psychology, Learning and Development, Research Methodology, and School Psychology is offered through the Department of Educational Psychology. Multicultural Studies emphasizes integrating intercultural theory and practice in urban educational and community settings. The Social Foundations of Education specialization provides students with the conceptual tools with which to examine the complex interrelationships between school and society, education and culture.

All graduates should have a broad understanding of the issues, problems and trends related to education, including urban education, and the application of these to their major. Students must develop a minor area of study in a discipline outside the specialization.

The program requires each participant to develop research skills ranging from logic in inquiry to development of specific methodological skills in qualitative and quantitative methods. The PhD is a research degree and not only a professional preparation degree. Therefore research is an integral part of the program. Mastery of these skills is demonstrated through course work, research projects and the dissertation. Graduates apply their skills, in institutions of higher education, public or private school settings, federal, state or local governmental agencies, community organizations, and the private sector.

Cooperating Departments
- Administrative Leadership
- Curriculum and Instruction
- Educational Policy and Community Studies
- Educational Psychology
- Exceptional Education
- Information Studies (School of)

Graduate Faculty

Professors
- Aman, Mohammed, Ph.D., New York University (Information Studies)
- Britz, Johannes, D.D., University of Pretoria (Information Studies)
- Corrigan, Roberta, Ph.D., University of Denver (Educational Psychology)
- Edyburn, Dave, Ph.D., University of Illinois at Urbana Champaign (Exceptional Education)
- Epps, Edgar, Ph.D., Washington State University (Educational Policy and Community Studies)
- Fouad, Nadya, Ph.D., University of Minnesota (Educational Psychology)
- Hains, Ann Higgins, Ph.D., University of Kansas (Exceptional Education)
- Huinker, DeAnn, Ed.D., University of Michigan (Curriculum and Instruction)
- Kepner, Henry, Jr., Ph.D., University of Iowa (Curriculum and Instruction)
- Kritek, William J., Ph.D. Washington University (Administrative Leadership)
- Martin, Larry, Ph.D., University of Wisconsin-Madison (Administrative Leadership)
- McLean, Mary, Ph.D., University of Wisconsin-Madison (Exceptional Education)
- McNeely, R.L., Ph.D., Brandeis University (Social Welfare)
- Obiakor, Festus, Ph.D., New Mexico State University (Exceptional Education)
- Olson, Hope, Ph.D., University of Wisconsin-Madison (Information Studies)
- Otis-Wilborn, Amy, Ph.D., University of Kansas (Exceptional Education)
- Pugach, Marleen, Ph.D., University of Illinois at Urbana Champaign (Curriculum and Instruction)
- Ryder, Randall J., Ph.D., University of Minnesota (Curriculum and Instruction)
- Sapp, Marty, Ed.D., University of Cincinnati (Educational Psychology)
- Schneider, Gail, Ph.D., University of Wisconsin-Madison (Administrative Leadership)
- Stoiber, Karen, Ph.D., University of Wisconsin-Madison (Educational Psychology)
- Wolfram, Dietmar, Ph.D., University of Western Ontario (Information Studies)

Associate Professors
- Antrop-Gonzalez, Rene, Ph.D., Pennsylvania State University (Curriculum and Instruction)
- Azen, Razia, Ph.D., University of Illinois at Urbana Champaign (Educational Psychology)
- Berg, Craig, Ph.D., University of Iowa (Curriculum and Instruction)
- Bonds, Michael, Ph.D., University of Wisconsin-Milwaukee (Educational Policy and Community Studies)
- Buchanan, Elizabeth, Ph.D., University of Wisconsin-Milwaukee (Information Studies)
- Crampton, Faith, Ph.D., Ohio State University (Administrative Leadership)
- Daley, Barbara, Ph.D., Cornell University (Administrative Leadership)
- Dentith, Audrey, Ph.D., Pennsylvania State University (Administrative Leadership)
- Dimitroff, Alexandra, Ph.D., University of Michigan (Information Studies)
- File, Nancy, Ph.D., Purdue University (Curriculum and Instruction)
- Ford, Alison, Ph.D., University of Wisconsin-Madison (Exceptional Education)
- Hains, Anthony, Ph.D., University of Notre Dame (Educational Psychology)
- Henderson, Laretta, Ph.D., University of Iowa (Information Studies)
- Jeong, Wooseob, Ph.D., Florida State University (Information Studies)
- Kailin, Julie, Ph.D., University of Wisconsin-Madison (Educational Policy and Community Studies)
- Keyes, Maureen, Ph.D., University of Wisconsin-Madison (Exceptional Education)
- Lamborn, Sue, Ph.D., University of Denver (Educational Psychology)
- Lee, Hur-Li, Ph.D., Rutgers University (Information Studies)
- Lipinsky, Tom, Ph.D., University of Illinois-Champaign/Urbana (Information Studies)
- Owens, Laura, Ph.D., University of Wisconsin-Madison (Exceptional Education)

Posnanski, Tracy, Ph.D., University of Wisconsin-Milwaukee (Curriculum and Instruction)
Post, Linda, Ph.D., Syracuse University (Curriculum and Instruction)
Pucci, Sandra, Ph.D., University of Southern California (Curriculum and Instruction)
Rice, Nancy, Ph.D., Syracuse University (Exceptional Education)
Santiago-Rivera, Azara, Wayne State University (Educational Psychology)
Schutz, Aaron, Ph.D., University of Michigan (Educational Policy and Community Studies)
Short, Ruth, Ph.D., University of Minnesota (Curriculum and Instruction)
Smith, Cyrus, Ed. D., Indiana University (Curriculum and Instruction)
Surber, John, Ph.D., University of Illinois at Urbana Champaign (Educational Psychology)
Swaminathan, Raji, Ph.D., Syracuse University (Educational Policy and Community Studies)
Tapia, Javier, Ph.D., Arizona State University (Educational Policy and Community Studies)
Walker, Cindy, Ph.D., University of Illinois at Urbana-Champaign (Educational Psychology)
Walker, Thomas, Ph.D., University of Illinois at Urbana-Champaign (Information Studies)
Wester, Stephen, Ph.D., University of Florida (Educational Psychology)
Winn, Judith, Ph.D., Michigan State University (Exceptional Education)
Xie, Iris, Ph.D., Rutgers University (Information Studies)
Zhang, Jin, Ph.D., University of Pittsburgh (Information Studies)

Assistant Professors

Akdere, Mesut, Ph.D., University of Minnesota-Twin Cities (Administrative Leadership)
Bales, Barbara, Ph.D., University of Wisconsin-Madison (Curriculum and Instruction)
Baskin, Thomas, Ph.D., University of Wisconsin - Madison (Educational Psychology)
Beachum, Floyd, Ed.D., Bowling Green State University (Adminstrative Leadership)
Chapman, Thandeka, Ph.D., University of Wisconsin-Madison (Curriculum and Instruction)
Cleary, Timothy, Ph.D., City University of New York (Educational Psychology)
Conceicao, Simone, Ph.D., University of Wisconsin-Madison (Administrative Leadership)
Drame, Elizabeth, Ph.D., Northwestern University (Exceptional Education)
Du Plessis, Jacques, Ph.D., Utah State University (Information Studies)
Farmer-Hinton, Raquel, Ph.D., University of Illinois-Urbana/Champaign (Educational Policy and Community Studies)
Frattura, Elise, Ph.D., University of Wisconsin-Madison (Exceptional Education)
Haigh, Maria, Ph.D., Drexel University (Information Studies)
Haigh, Thomas, Ph.D., University of Pennsylvania (Information Studies)
Jang, Hyungshim, Ph.D., University of Iowa (Educational Psychology)
Kelly, Karen, Ph.D., University of South Florida (Curriculum and Instruction)
LaNear, John, Ph.D., University of Missouri - Kansas City (Administrative Leadership)
Longwell-Grice, Hope, Ph.D., University of Delaware (Curriculum and Instruction)
Mertzman, Tania, Ph.D., University of South Florida (Curriculum and Instruction)
Mina, Liliana, Ph.D., Michigan State University (Administrative Leadership)
Mu, Xiangming, Ph.D., University of North Carolina - Chapel Hill (Information Studies)
Mueller, Jennifer, Ph.D., University of Michigan (Curriculum and Instruction)
Newell, Terrance, Ph.D., University of Wisconsin-Madison (Information Studies)
Oxford, Raquel, Ph.D., University of North Texas (Curriculum and Instruction)
Pasternak, Donna, Ph.D., New York University (Curriculum and Instruction)
Renard, Deborah, Ph.D., Western Michigan University (Educational Psychology)
Saffold, Felicia, Ed.D., Cardinal Stritch University (Curriculum and Instruction)
Smith, Regina, Ph.D., Michigan State University (Administrative Leadership)
Toro Martell, Sandra, Ph.D., University of Washington (Educational Psychology)
Zhang, Bo, Ph.D., University of Pittsburgh (Educational Psychology)

Doctor of Philosophy in Urban Education

Admission

An applicant must meet Graduate School requirements plus the following program requirements to be considered for admission.

Graduate Record Examination

Submission of scores on the General Test portion of the Graduate Record Examination is required. Scores that are more than five years old will not be considered valid.

Grade Point Average

Undergraduate GPA of 2.85 (applicants having less than 15 graduate hours must have an undergraduate GPA of 3.50.); graduate GPA of 3.5; or a combined (undergraduate and graduate) GPA of 6.5.

Writing Sample

Applicants must submit a writing sample completed within the last five years. The writing sample must be single authored, at least 1500 words, and must be selected from ONE of the following options:

1. Master's Thesis
2. Undergraduate Senior Thesis
3. Technical report
4. Term Paper
5. Publication
6. Written Description of a Project
7. Action Research Project
8. A 5-10 page response to the following question: **How would you go about determining and evaluating critical issues in urban education?** The response to this question must show evidence of appropriate references to a knowledge base.

The writing sample must be submitted with the application. Deadline, January 1st of submission year.

Interview

An interview may be arranged with all applicants. In the case of applicants living too far away to attend a personal interview, a phone interview will be arranged.

Recommendations

An applicant must have a minimum of three appropriate persons write a recommendation and comment meaningfully and knowledgeably on the likelihood that the applicant can successfully complete an advanced scholarly program of studies for the PhD degree. It is helpful if the majority of references are written by college/university faculty. If an applicant is unable to secure academic references because of elapsed time, other references should be as current as possible. In any case, individuals preparing references should be selected who can comment with confidence on the applicant's academic qualifications. Reference forms must be forwarded directly by the writers to the Office of Doctoral Studies. Complete information is provided in application materials available from the Office of Doctoral Studies.

Application

Applicants are required to articulate their urban and research interests and goals in application materials. An intended concentration within the PhD must be specified at time of application.

- Applicants who fail to satisfy these admission requirements will not be recommended for admission. However, satisfying these minima does not guarantee admission.
- Applicants who are not recommended for admission will be provided an opportunity to request a reconsideration.

Individual specializations may expect prior coursework in that area. Applicants may contact the Director for specific information. Openings in the program are limited. Applicants should submit all application materials no later than January 1 for admission the following September. Applicants must contact the Office of Doctoral Studies for application information and forms.

Course of Study

Minimum degree requirement is 54 credits beyond the bachelor's degree (although students ordinarily take more than 54), at least 27 of which must be earned in residence at UWM (i.e., on the UWM campus).

In consultation with the major professor, the student designs a program of studies that enables the student to gain the knowledge and skills appropriate to the student's goals.

The program of studies includes the following:

The Doctoral Seminars

All doctoral students must take three 3-credit seminar courses devoted to content involving education in an urban environment. One of these seminars is taken as part of the department specialization.

Research Requirement

1. All doctoral students must take EdPsy 724, Educational Statistical Methods II (prerequisite is EdPsy 624) and CurrIns/Ad Ldsp 729, Qualitative Research and Field Studies in Educational Settings.
2. All doctoral students select additional advanced level (800 or above) coursework (minimum 6 credits) from either a qualitative track or quantitative track.
3. All doctoral students must take a research design course approved by their advisor and the Director of Doctoral Studies.
4. Department specialization requirements may exceed those specified here.
5. All students demonstrate knowledge in this area by writing a preliminary examination research question and successfully defending a dissertation.

Designated Specialization

Students indicate a specific area of specialization, by applying for one of the transcript-designated specializations in either Adult and Continuing Education, Curriculum and Instruction, Educational Administration, Educational and Media Technology, Exceptional Education, Multicultural Studies, or Social Foundations of Education. Students may be required to meet the specific admissions and program requirements for their intended specialization in addition to meeting the PhD admissions and program requirements. (Please see the accompanying explanation and requirements for each specialization.)

Minor

Students are required to complete a minor consisting of courses in a related discipline that supports the student's program of studies. The student may choose either Option A or Option B.

- **Option A:** A minimum of 8 credits in a single department outside the School of Education. A minor professor approves these courses, sits as a member of the student's doctoral committee, and contributes to the student's doctoral preliminary examination.
- **Option B:** A minimum of 12 credits in two or more departments, with a minimum of 6 credits outside of the School of Education. The remaining credits may be taken within the School of Education, but must be taken outside of the department of specialization.

Foreign Language Requirement

There is no foreign language requirement. However, individual students may be required to demonstrate proficiency in a foreign language if such proficiency is determined to be necessary by a student's committee.

Residence

The residency requirement is satisfied through the successful completion of 9 or more credits in each of two consecutive semesters, excluding summer, or by completing at least 6 graduate credits in each of three consecutive semesters, excluding summer.

It is the student's responsibility to notify the Office of Doctoral Studies when residency requirements have been met. Such notification must be in writing and must include the semesters, year(s) and number of credits taken during each of the applicable semesters.

Doctoral Preliminary Examination

The student must pass a doctoral preliminary examination to qualify for formal admission to candidacy for the degree. The examination covers the area of specialization, urban education, the minor, and research methods.

Dissertation

The candidate must present a dissertation reporting the results of an original research study appropriate to the student's program. Prior to beginning the research, the candidate must present an acceptable dissertation proposal and defend it at an oral hearing.

Dissertation Defense

The candidate must, as the final step toward the degree, pass an oral examination in defense of the dissertation.

Time Limit

Students who do not complete all degree requirements within seven years from the date of admission to the doctoral program will be recommended for dismissal to the Graduate School.

Other Requirements

This is only a summary of the doctoral program requirements. A complete list of requirements is available from the Office of Doctoral Studies. Doctoral Committees may specify course requirements which exceed the minima described here.

For additional information on the PhD, see the Graduate School Doctoral Requirements page.

Adult and Continuing Education Specialization

For course descriptions in this area, visit the Administrative Leadership page.

Admission

1. Students wishing to specialize in Adult and Continuing Education must first be admitted to the Urban Education Doctoral Program (UEDP).
2. Subsequent to UEDP admission, the student must submit a program for concentration in Adult and Continuing Education, developed in conjunction with the student's advisor and committee, to the chair of the department of Administrative Leadership.

Program Requirements

The student must meet all of the program requirements of the Urban Education Doctoral Program. The specialization in Adult and Continuing Education consists of a minimum of 30 graduate credits excluding dissertation credits.

Required Courses

Required Courses (15 credits)

- Ad Ldsp 798 Seminar in Human Resource Development, 3 cr
- Ad Ldsp 827 Seminar in Adult and Organizational Learning, 3 cr
- Ad Ldsp 867 Seminar in Continuing Education in the Professions, 3 cr
- Ad Ldsp 897 Seminar in the Philosophy & History of Adult Education, 3 cr
- Ad Ldsp 967 Seminar in Urban Adult Education, 3 cr

Electives

Students entering the Ph.D. program without a Master's degree in Adult Education are required to take the following electives. Your advisor may recommend other courses in addition to these.

Electives (15 credits)

- Ad Ldsp 667 Program Planning in Adult Education, 3 cr
- Ad Ldsp 707 Using Technology with Adult Learners, 3 cr
- Ad Ldsp 737 Distance Education for Adults, 3 cr
- Ad Ldsp 757 Principles and Foundations of Adult Education, 3 cr
- Ad Ldsp 787 Administration of Adult Education Programs, 3 cr
- Ad Ldsp 777 Leadership in Multicultural Organizations, 3 cr

Doctoral Committee Membership

The dissertation advisor is an Urban Education doctoral advisor and member of the Department of Administrative Leadership. At least two other committee members must be from the Department of Administrative Leadership.

Exit Requirements

Contingent upon successful completion of program requirements, the doctoral preliminary examination, and the dissertation defense, the Chair of the Department of Administrative Leadership must give final approval for the inclusion of "Urban Education: Adult and Continuing Education" on the student's transcript.

Educational Administration Specialization

For course descriptions in this area, visit the Administrative Leadership page.

Admission

1. Students wishing to specialize in Educational Administration must first be admitted to the Urban Education Doctoral Program (UEDP).
2. Subsequent to UEDP admission, the student must submit a program for concentration in Educational Administration, developed in conjunction with the student's advisor and committee, to the chair of the department of Administrative Leadership.

Program Requirements

The student must meet all of the program requirements of the Urban Education Doctoral Program. The specialization in Educational Administration consists of a minimum of 30 graduate credits excluding dissertation credits.

The credits are to be distributed as follows:

PhD Non-Certification Orientation

Required Courses

- Ad Ldsp 801 Urban Education: Doctoral Seminar in Administrative Leadership, 3 cr
- Ad Ldsp 832 Educational Politics & Policy-Making, 3 cr
- Ad Ldsp 842 Program Planning & Evaluation in Education, 3 cr
- Ad Ldsp 862 Economics of Education, 3 cr

Electives in Administrative Leadership (700+): 18 credits

Total: 30 credits

PhD District Administrator/Superintendent Certification Orientation

Required Courses

- Ad Ldsp 801 Urban Education: Doctoral Seminar in Administrative Leadership, 3 cr
- Ad Ldsp 802 The School Superintendency, 3 cr
- Ad Ldsp 812 Educational Personnel Administration &Supervision, 3 cr
- Ad Ldsp 832 Educational Politics &Policy-Making, 3 cr
- Ad Ldsp 842 Program Planning &Evaluation in Education, 3 cr
- Ad Ldsp 862 Economics of Education, 3 cr
- Ad Ldsp 882 Practicum in the School Superintendency, 3 cr

Electives in Administrative Leadership (700+): 9 credits

Total: 30 credits

Although a Master's Degree and certification as a principal are prerequisites to certification as a School Superintendent in Wisconsin, doctoral students may satisfy the requirements for both licenses within their Ph.D. Program of Study. Advisors will design such programs based on individual student need.

Any post-master's courses taken prior to admission while enrolled as a non-degree student in the Specialist Program for School Superintendent Certification do not have to be repeated, subject to advisor and UEDC Director approval. All such credits may be applied toward the 30 credits required in the area of concentration except that in no case may a Ph.D. area of concentration contain fewer than 9 upper level graduate credits (excluding dissertation credits) taken after admission to doctoral study. Individuals who have not completed at least 6 credits of accepted graduate course work within the 5 year immediately prior to admission must take a minimum of 15 credits.

Doctoral Committee Membership

The dissertation advisor is an Urban Education doctoral advisor and member of the Department of Administrative Leadership. At least two other committee members must be from the Department of Administrative Leadership.

Exit Requirements

Contingent upon successful completion of program requirements, the doctoral preliminary examination, and the dissertation defense, the Chair of the Department of Administrative Leadership must give final approval for the inclusion of "Urban Education: Educational Administration" on the student's transcript.

Curriculum and Instruction Specialization

For course descriptions in this area, visit the Curriculum and Instruction page.

Admission

1. Students wishing to specialize in Curriculum and Instruction must first be admitted to the Urban Education Doctoral Program (UEDP).
2. Subsequent to UEDP admission, the student must submit to the Curriculum and Instruction Graduate Committee a program for concentration in Curriculum and Instruction developed in conjunction with the student's advisor.

Program Requirements

1. The student must meet all of the program requirements of the Urban Education Doctoral Program.

2. Specialization in Curriculum and Instruction consists of a minimum of 24 credits, 18 of which must be taken in Curriculum and Instruction. No more than 6 credits taken prior to admission to the PhD program may be counted toward the specialty. The credits are to be distributed as follows:

    - A minimum of 9 credits in advanced, general Curriculum and Instruction courses:
        - **813** Instructional Research and Theory, 3 cr.
        - **816** Curriculum Designs for Urban Schools, 3 cr.
        - **819** Theory and Design of Curriculum, 3 cr.
    - A minimum of 15 credits in a specific Curriculum and Instruction area of interest. Areas of interest are the following:
        - Content area: (e.g., reading)
        - Education level area (e.g., early childhood)
        - General area: (e.g., curriculum theory)
        - Special area: (e.g., guiding instructional improvement)

3. The UEDP doctoral preliminary examination includes a section covering the student's Curriculum and Instruction specialization.

4. A dissertation with a Curriculum and Instruction emphasis is required. The dissertation advisor must be an UEDP doctoral advisor and a member of the Department of Curriculum and Instruction. At least two other committee members must be from Curriculum and Instruction.

Exit Requirements

Contingent upon completion of program requirements, the doctoral preliminary examination, and the successful defense of the dissertation, the Chair of the Department of Curriculum and Instruction will give final approval for the inclusion of "Urban Education: Curriculum and Instruction" on the student's transcript.

Educational and Media Technology Specialization

For course descriptions in this area, visit the Library and Information Science page.

Admission

Students wishing to specialize in Educational and Media Technology must first be admitted to the Urban Education Doctoral Program (UEDP).

Subsequent to UEDP admission, the student must submit to the School of Information Studies a program for concentration in Educational and Media Technology developed in conjunction with the student's SOIS advisor.

Program Requirements

The student will develop a program of studies that is approved by the SOIS Doctoral Committee and by the Director of the Urban Education Doctoral Program.

The student must meet all of the program requirements of the Urban Education Doctoral Program.

Students not holding a Master of Information Studies degree will have the following prerequisites to the specialization: completion of all the core courses offered in the SOIS Master of Information Studies program (L&I Sci501, L&I Sci511, L&I Sci571, L&I Sci591). A student may request that the SOIS Doctoral Committee waive one or more of these core course requirements based on the student's work experience and/or courses taken elsewhere.

The specialization in Educational and Media Technology will consist of a minimum of 30 graduate credits, excluding dissertation credits; 18 of the 30 credits must be taken in Information Studies. No more than 6 credits taken prior to admission to the Urban Education Doctoral Program may be counted toward the 30-credit specialization. The minimum of 18 credits in Information Studies are distributed as follows:

The 3-credit seminar that also satisfies part of the Urban Education seminar requirement:

- L&I Sci 845 Doctoral Seminar: Issues in Educational and Media Technology

At least four of the following 3-credit courses:

- L&I Sci 670 Production and Utilization of Instructional Technology
- L&I Sci 774 Online Information Retrieval
- L&I Sci 785 Database Management Systems for Information Professionals
- L&I Sci 788 Information Systems: Analysis and Design
- L&I Sci 789 Electronic Networking and Information Services
- L&I Sci 890 Research Methods in Information Studies

Three credits selected from these variable-credit courses:

- L&I Sci 733 Advanced Topics in Information Retrieval
- L&I Sci 891 Advanced Topics in Library & Information Science

The Urban Education Doctoral Program doctoral preliminary examination includes a section covering the student's Educational and Media Technology specialization.

A dissertation with an Educational and Media Technology emphasis is required. The dissertation advisor must be approved as such by the Urban Education Doctoral Program and the faculty of the School of Information Studies. At least one other committee member must be from the School of Information Studies. There must be at least two committee members from the School of Education.

Exit Requirements

Contingent upon completion of program requirements, the doctoral preliminary examination, and successful defense of the dissertation, the Dean of the School of Information Studies must give final approval for the inclusion of "Urban Education: Educational and Media Technology" on the student's transcript.

Exceptional Education Specialization

See the Exceptional Education section of the Bulletin for course descriptions in this area.

Admission

1. Students wishing to specialize in Exceptional Education must first be admitted to the Urban Education Doctoral Program. (UEDP)
2. Subsequent to UEDP admission, the student must submit credentials and a program for concentration in Exceptional Education developed in conjunction with the student's advisor in the Department of Exceptional Education. Students also must prepare a statement expressing their interests within Exceptional Education for the departmental admissions procedure.

Program Requirements

The doctoral specialization in Exceptional Education provides a program of advanced study of exceptional individuals and the services available to exceptional individuals. Students in Exceptional Education take advanced coursework in exceptional education and related areas such as administration, research, teacher education and curriculum development. In addition, students declare an area of interest which may be within exceptional education or a cross-disciplinary interest with an exceptional education focus on policy studies, curriculum development, learning and development, or administration. The student and advisor work together to develop an individualized program which incorporates breadth as well as depth of study.

1. Students not having the equivalent of a master's degree in exceptional educa-tion or a related field need to take appropriate graduate coursework as a prerequisite to the doctoral specialization in Exceptional Education.

2. The student must meet all of the program requirements of the Urban Education Doctoral Program.

3. The student must meet the following Exceptional Education requirements:

    - Fifteen credits in Exceptional Education are required. A minimum of 9 credits must be taken at the 800 level or above.

    - A minimum of 12 additional credits, at the 700 level or above, in an area of interest, e.g., administration, curriculum, an individually designed program, or research and statistics, with at least 3 credits of seminar at the 900 level, is required.

    - The parts of the doctoral preliminary examination related to the specialty include these sections: exceptional education, area of interest, and research and minor.

    - A dissertation is required in the area of Exceptional Education. The dissertation advisor is an approved doctoral advisor and a member of the Department of Exceptional Education. At least two other committee members must be from the Department of Exceptional Education.

Exit Requirements

Contingent upon completion of program requirements, passage of the doctoral preliminary examination, and successful defense of the dissertation, the Chair of the Department of Exceptional Education must give final approval of the inclusion of "Urban Education: Exceptional Education" on the student's transcript.

Multicultural Studies Specialization

See the Cultural Foundations of Education section of the Bulletin for course descriptions in this area.

Admissions Requirements

1. Students seeking admission to the doctoral program must indicate their intended area of specialization. The application will be reviewed by the Admissions Committee of the Urban Education Doctoral Program as well as the interdisciplinary graduate faculty of the Multicultural Studies Area.

2. Subsequent to admission, the student must submit a program of concentration in Multicultural Studies developed in conjunction with the student's advisor.

3. When the student's course of studies in Multicultural Studies is approved by the Multicultural Studies interdisciplinary faculty, the student must submit a program of study to the Office of the Doctoral Studies for review and approval by the Director.

4. Prior to admission, or within the first 30 graduate credits after admittance to the Multicultural Studies specialization, the student must complete a research project, e.g., thesis or publishable paper.

Program Requirements

Students must be admitted first to the Ph.D. Program in Urban Education, then specialize in Multicultural Studies. The course requirements for Multicultural Studies are outlined below.

1. Students must meet all the requirements of the Urban Education Doctoral Program.

2. Students not having a graduate degree in a field recognized by the specialization faculty may be required to take master's level course work as a prerequisite to admission.

Urban Seminar Requirements (9 graduate credits)

- Educ 701 Urban Educational Issues
- Educ 801 Urban Education: Seminar in Multicultural Studies
- Educ 901 Advanced Seminar in Urban Education

Major Concentration (9 graduate credits)

- The following courses are required. All are three (3) credits unless otherwise designated. (To be completed as cohorts and in the sequence listed.)
- Educ 881 Action Research
- Educ 882 Multicultural Studies Practicum
- Educ 979 Special Topics in Advanced Urban Education Studies

Electives in Multicultural Specialization (15 graduate credits)

The SOE specialization includes a tailored professional area with multicultural studies.

Department Concentration

- Six (6) credits in one area are selected by the advisor and student (i.e., educational psychology, curriculum and instruction, administrative leadership, educational policy and community studies, or exceptional education).

Interdisciplinary Education Concentration (9 cr within 3 departments)

- CurrIns 816 Curriculum Design for Urban Schools
- Ed Pol 823 Multicultural Education
- Ed Pol 833 Seminar in Multicultural Education
- EdPsy 833 Psychology of Race and Ethnicity

Research Requirements (minimum of 15 graduate credits required)

Research Design and Methodology. The following are required:

- EdPsy 724 Educational Statistical Methods II
- CurrIns 729 Qualitative Research &Field Studies
- Educ 910 Research Seminar
- Six (6) credits in additional advanced level course work from either a quantitative or qualitative track. Three (3) credits must be from the College of Letters and Science and 3 credits must be from the School of Education.

Minor Requirements (15 cr)

The interdisciplinary minor in the College of Letters and Science is designed to broaden and deepen the student's knowledge bases between education and other disciplines.

Interdisciplinary Sequence:

- Three courses are required. The courses will be selected from a list compiled by the interdisciplinary Multicultural Studies faculty. This includes one course each from Anthropology, History, and Sociology (Examples: Seminar in American Ethnic History, Linguistic Anthropology, Race and Ethnic Relations).

Minor Sequence:

- To complete the minor, students will take an additional six (6) credits in one of the following departments: Anthropology, History, or Sociology

Cohort Experience

- To achieve the program goals, students will complete Action Research (Educ 881) and the Multicultural Studies Practicum (Educ 882) as a cohort group.

Doctoral Preliminary Examination

- The doctoral preliminary examination includes sections covering the student's Multicultural Studies specialization. These sections will test the student's competence in the following areas: urban education; research; multicultural theories, policies, and practices; and the minor area.

Dissertation

- A dissertation of original scholarly research is required in the area of Multicultural Studies. The dissertation advisor must be an approved doctoral advisor and a member of the Multicultural Studies interdisciplinary faculty.

Exit Requirements

Contingent upon successful completion of program requirements, passage of the doctoral preliminary examination, and successful defense of the dissertation.

Social Foundations of Education Specialization

See the Cultural Foundations of Education section of the Bulletin for course descriptions in this area.

Admission Requirements

1. Students wishing to be admitted to the Urban Education Doctoral Program must indicate their intended area of specialization. Their applications will be reviewed by the Admissions committee of the Urban Education Doctoral Program as well as by the Department of Educational Policy and Community Studies. The general requirements maintained by the Graduate School at UWM will apply to these candidates;
2. Subsequent to admission, the student must submit a program for study for a specialization in Social Foundations of Education, developed in conjunction with the student's advisor and committee;
3. If the student's specialization in Social Foundations of Education is approved, the student must submit his or her program of study to the Office of Doctoral Studies for review and approval by the director;
4. Students who have already had their programs approved prior to their decision to seek specialization in Social Foundations of Education must submit a program for concentration in Social Foundations of Education to the Departmental Graduate Committee for approval, and if changes are made, must seek approval of the new program of studies by the Office of Doctoral Studies.

Program Requirements

Urban Educational Doctoral Program General Requirements (9 credits)

- Educ 701 Urban Educational Issues
- Ed Pol 801 Seminar in Social Foundations of Education
- Educ 901 Advanced Seminar in Urban Education

Research Methods Credits (15 credits)

- Ed Psy 724 Educational Statistical Methods II
- CurrIns 729 Qualitative Research &Field Studies
- Ed Psy 728 Techniques of Educational Research

6 credits advanced research coursework to be chosen from the following:

Historical/Cultural Research:

Anthropology

- **705** Advanced Topics in Ethnography
- **761** Cross-Cultural Research: Problems in Comparative Method and Theory
- **768** Topics in Advanced Research Design in Anthropology

History

- **712** Historiography and Theory of History
- **713** Historical Research Methods

Philosophy

- **903** Seminar in Epistemology
- **911** Seminar in Logic
- **960** Seminar in Metaphysics
- Political Science
- **700** Scope and Methods of Political Science I
- **701** Techniques of Political Science Research
- **702** Advanced Techniques of Political Science Research

Social Work

- **793** Advanced Methods of Social Welfare Research
- **794** Advanced Research Methods: Evaluating Social Welfare Programs
- Urban Studies
- **731** Quantitative Analysis for Public Administration and Urban Research
- **921** Seminar: Research Methods in Urban Affairs
- **979** Methods of Research &Analysis for Urban Social Institutions I
- **982** Methods of Research &Analysis for Urban Social Institutions II

Qualitative Research

- CurrIns 729 Qualitative Research and Field Studies in Education Setting
- CurrIns 829 Advanced Qualitative Research Techniques for Education Settings
- CurrIns 839 Practicum in Writing from Qualitative Research in Educational Settings

Quantitative Research:

- Ed Psy 821 Psychometric Theory and Practice
- Ed Psy 822 Modern Test Theory
- Ed Psy 823 Structural Equation Modeling
- Ed Psy 824 Advanced Experimental Design and Analysis
- Ed Psy 825 Multiple Regression and Multivariate Analysis
- Ed Psy 826 Analysis of Cross-Classified Categorical Data
- Ed Psy 827 Survey Research Methods In Education
- Ed Psy 829 Methods of Scale Construction &Multidimensional Scaling
- Ed Psy 922 Seminar in Measurement and Evaluation
- Ed Psy 929 Seminar in Statistics and Research Design

Specialization Requirements (12 credits)

- Ed Pol 805 Sociology of Education: Seminar
- Ed Pol 822 Global Education Studies
- Ed Pol 840 Seminar in Educational Theory
- Ed Pol 850 Seminar in History of Education

Electives in Specialization (12 credits)

- Students in the doctoral program with an emphasis on Social Foundations of Education may select from the following courses to fulfill this requirement. If a student wishes to take courses not on the list, s/he should get these courses approved through his/her adviser.

Educational Policy & Community Studies

- **620** History of the Education of African Americans
- **625** Race Relations in Education
- **660** History of Western Education
- **705** Sociology of Education
- **710** Research Methods in Cultural Foundations
- **740** Modern Philosophies of Education
- **750** History of American Education
- **823** Multicultural Education
- **830** A Study of Educational Classics
- **833** Seminar in Multicultural Education

Minor (12 credits)

The minor is completed outside the School of Education in one department as negotiated with advisor. The intent is to provide students with an academic area of expertise, e.g. sociology, philosophy, history, etc.

Other Requirements

All students must adhere to all other general requirements of the Urban Educational Doctoral Program pertaining to such issues as residency, preliminary examinations, dissertation proposals and defense, and time limits.

The preliminary qualifying exam will include a section covering the student's Social Foundations of Education specialization.

A dissertation with the appropriate area of emphasis is required. The dissertation committee must be composed of a minimum of five members of the graduate faculty. The dissertation advisor will be an approved doctoral advisor and a member of the Department of Educational Policy and Community Studies. Two other members must be from the Department of Educational Policy and Community Studies, and one member must be from the minor area.

Exit requirements

Contingent upon completion of program requirements, the preliminary qualifying examination, and the successful defense of the dissertation, the chair of the Department of Educational Policy and Community Studies must give final approval for the inclusion of Social Foundations of Education upon the student's transcript.

Courses: Education—Interdepartmental

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

701 Urban Educational Issues. 3 cr. G.
Advanced study of urban educational issues in contemporary american cultural context. Prereq: admis to Urban Educ doctoral prog.

801 Urban Education: Seminar in Multicultural Studies. 3 cr. G.
An overview of theory and research on multiculturalism with emphasis on applications of theory and research to practice in a variety of educational settings. Prereq: admis to phd prog urban educ; Educ 701(P).

881 Action Research. 3 cr. G.
Perspectives on action research, its forms in various contexts, and how it contributes to knowledge and improved practice. Prereq: admis to Urban Ed PhD prog; Educ 701(C) or cons instr.

882 Multicultural Studies Practicum. 3 cr. G.
Intensive fieldwork/seminar with emphases on intercultural experience, integration of knowledge bases, and collaboration in community and university settings. Prerq: admis to Urban Ed PhD prog; Educ 881(P).

900 Doctoral Seminar in Urban Education: (Subtitled). 2-3 cr. G.
Topics will vary. Overview of areas of study focuses upon problems in urban education. Emphasis placed upon research and potential research and potential search projects. May be repeated to max of 9 cr. Prereq: admis to phd in urban educ prog.

901 Advanced Seminar in Urban Education. 3 cr. G.
A synthesis of research-based urban education issues including specific content from the four areas of specialization. Prereq: grad st; admis to PhD prog in

Urban Educ, Educ 701 and one of the following: Ad Ldsp 801, CurrIns 801, Ed Psy 801, ExcEduc 801.

910 Research Seminar in Urban Education. 3 cr. G.

Final course in research methods for PhD students in urban education. Focus on advanced research design issues and preparation for the dissertation. Prereq: admis to urban educ doctoral prog; Ad Ldsp/CurrIns 729; Ed Psy 724, & 6 additional cr of approved research methods.

945 Seminar in Urban Doctoral Research. 1-3 cr. G.

For students in PhD in urban education who are developing a dissertation. Identification and delineation of dissertation topics, research designs, instrumentations, and procedures. Prereq: admis to phd in urban educ.

979 Special Topics in Advanced Urban Education Studies: (Subtitled). 1-3 cr. G.

The specific topic will be announced in the Timetable each time the course is offered. May be repeated with different content to max of 9 cr. Prereq: admis to phd in urban educ prog.

URBAN PLANNING

- Phone: (414) 229-4015
- Fax: (414) 229-6976
- E-mail: jsinger@uwm.edu

School/College: School of Architecture and Urban Planning

Degrees Conferred:

- Master of Urban Planning

Overview

The Urban Planning program at UWM is a professional, skills-oriented, master's program designed to train students to perform a variety of planning-related jobs in either the public or private sector.

The program focuses on planning as a process for improving collective decisions in the public and private sectors. The planning process includes analyzing problems, designing alternative solutions and evaluating their consequences, developing strategies for action and participating in their implementation. This process is used in both government and business in developing policy for future action, so that today's solutions do not become tomorrow's problems.

The program's elective courses combined with other courses on campus enable the development of more specialized depth in several planning related areas under the following concentrations: Urban Revitalization; Economic Development; Urban Geographic Information Systems; Transportation; Physical Planning and Urban Design; and Environmental Resources.

The Department is staffed by faculty members who combine academic and professional qualifications and who are committed to active involvement in current issues. They teach by example, using case studies and projects involving actual situations in most courses. This approach injects reality into the educational environment, allows students to see the relevance of the material in the curriculum, and shows students how their courses relate to their professional practice.

The Milwaukee Metropolitan area of one-and-one-half million persons is a learning laboratory that classroom projects and faculty researchers use extensively. Moreover, students gain additional practical experience through internships in the wide array of planning positions available in the Milwaukee area.

M Arch/MUP Coordinated Degree Program

In cooperation with the Department of Architecture, the Department of Urban Planning offers a Master of Architecture/Master of Urban Planning program to prepare students for positions as architect/planners. Students in the program concurrently pursue a Master of Architecture degree program and a Master of Urban Planning degree program. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree. For more detailed information on this program see Credits and Courses section below.

MS/MUP Coordinated Degree Program

In cooperation with the College of Engineering and Applied Science, the Department of Urban Planning offers a Master of Science in Engineering/Master of Urban Planning program to prepare students for positions in transportation, public works or similar areas. Students in the program will concurrently pursue a Master of Urban Planning degree program in the Department of Urban Planning and a Master of Science in Engineering degree program from the College of Engineering and Applied Science. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree.

MPA/MUP Coordinated Degree Program

A joint degree program has been designed to allow students to obtain both the Master of Public Administration and the Master of Urban Planning degrees concurrently. This program is intended to combine professional training in planning with applied administrative and managerial skills. More detailed information on this program can be found later in this section and in the Public Administration section of this Bulletin.

Certificate in Geographic Information Systems (GIS)

The Certificate in Geographic Information Systems is designed to provide a 18-credit formal program of studies for students who wish to pursue careers in geographic information systems in local government. Students wishing to earn the Certificate must be enrolled in a master's degree program in any department at the University or have received a master's degree from UWM in Urban Planning or a related field. For more information, see Certificate section below.

Certificate in Real Estate Development

The Certificate in Real Estate Development is designed to provide a formal program of studies for Master of Architecture or Master of Urban Planning students who wish to pursue careers in real estate development in combination with professional architectural practice or work with a private or public developer. For more information, see Certificate section below.

Graduate Faculty

Professors

Huxhold, William E., M.S., University of Dayton

White, Sammis B., Ph.D., University of Pennsylvania

Associate Professors

Carlson, Virginia, Ph.D., Northwestern University

Frank, Nancy, Ph.D., State University of New York-Albany, Chair

Assistant Professor

Greenwald, Michael, Ph.D., University of California - Irvine

Master of Urban Planning

Admission

An applicant must meet Graduate School requirements plus these program requirements to be considered for admission:

1. For domestic applicants, submission of scores on the General Test of the Graduate Record Examination. For international applicants whose first language is not English, a score of at least 600 (or 250 on the computer-based version) on the Test of English as a Foreign Language (TOEFL), or a score of at least 7.0 on the International English Language Testing System (IELTS) exam. Applicants with TOEFL scores from 550 to 599 (or 213 to 247 on the computer based version) or an IELTS score of 6.5 will be considered for admission only with the stipulation that further course work in English be taken.
2. Three letters of recommendation from persons familiar with the applicant's academic and/or professional work.
3. Submission of a letter of intent to the Graduate School stating the reason for requesting admission to the Urban Planning program.

Candidates seeking admission to the M Arch/MUP, the MPA/MU, or the MS/MUP program must apply to and be admitted to both programs. The requirements for admission to the Master of Architecture degree program are detailed in the Architecture section of this Bulletin. The requirements for admission to the Master of Science in Engineering program are detailed in the Engineering section of this Bulletin. The requirements for admission to the MPA program are detailed in the Public Administration section of this Bulletin.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at time of admission should immediately contact the Department Chair.

Credits and Courses

The minimum degree requirement is 48 credits. Of these 48 credits, 27 are taken in the core curriculum, consisting of the following courses (24 credits):

- UrbPlan 701 Introduction to Land Use Planning, 1 cr
- UrbPlan 702 Introduction to Planning Law, 2 cr
- UrbPlan 711 Planning Theories and Practice, 3 cr
- UrbPlan 720 Urban Development Theory and Planning, 3 cr
- UrbPlan 721 Applied Planning Methods, 3 cr
- UrbPlan 740 Data Analysis Methods I, 3 cr
- UrbPlan 810 Planning Policy Analysis, 6 cr
- UrbPlan 811 Applied Planning Workshop, 3 cr

and any one of the following courses (3 credits):

- UrbPlan 751 Introduction to Urban Design and Physical Planning, 3 cr
- UrbPlan 791 Introduction to Urban Geographic Information Systems for Planning, 3 cr
- UrbPlan 857 Urban Design as Public Policy, 3 cr

The remaining 21 credits may be taken in the general option or any of the concentrations listed previously: Urban Revitalization; Economic Development; Urban Geographic Information Systems; Transportation; Physical Planning and Urban Design; and Environmental Resources. Each concentration consists of a recommended cluster of courses which may include one or more planning electives as concentration core courses, and a selection of electives from among planning and other courses. Details of the concentrations can be obtained from the Department of Urban Planning and are finalized in consultation with the student's academic advisor.

M Arch/MUP

Students in the M Arch/MUP program are required to complete a total of 72 credits: 27 credits of core courses and 9 elective credits in urban planning and 36 credits in architecture, including distribution requirements, pre-thesis/project and master's thesis/project.

MS/MUP

Students in the MS/MUP program are required to meet the College of Engineering and Applied Science requirements for the Master of Science in Engineering degree as well as the requirements for the MUP degree. Students in this program are required to take 15 credits in an approved program of technical studies in the College of Engineering and Applied Science, and 6 credits in nontransportation related engineering approved electives. The total credit requirement for the MS/MUP program is 54 credits.

MPA/MUP

This program allows students to complete master's degrees in Public Administration and in Urban Planning concurrently. The coordinated degree requires 42-45 credits of required courses and completion of a concentration in Public Administration (18 credits). However, because some courses completed for the core requirements of the MUP also may count toward the MPA concentration, students may complete the dual degree with a minimum of 54-57 credits. The total number of credits will depend on the student's track and choice of concentration in public administration.

Required Courses in Urban Planning (27 credits)

- UrbPlan 701 Introduction to Land Use Planning, 1 cr
- UrbPlan 702 Introduction to Planning Law, 2 cr
- UrbPlan 711 Planning Theories and Practice, 3 cr
- UrbPlan 720 Urban Development Theory and Planning, 3 cr
- UrbPlan 721 Applied Planning Methods, 3 cr
- UrbPlan 740 Data Analysis Methods I, 3 cr
- UrbPlan 810 Planning Policy Analysis, 6 cr
- UrbPlan 811 Applied Planning Workshop, 3 cr

and any one of the following courses (3 credits):

- UrbPlan 751 Introduction to Urban Design and Physical Planning, 3 cr
- UrbPlan 791 Introduction to Urban Geographic Information Systems for Planning, 3 cr
- UrbPlan 857 Urban Design as Public Policy, 3 cr

Required Courses in Public Administration (18 credits)

- Bus Adm 738 Human Resources Management, 3 cr
- Pol Sci/UrbPlan 630 Budgeting and Finance in the Public Sector, 3 cr
- Pol Sci 763 Scope and Dynamics of Public Administration, 3 cr
- Pol Sci 921 Public Service Administrative Internship,* 3 cr OR UrbPlan 991 Legislative/Administrative Agency Internship, 3 cr
- Pol Sci 959 Capstone Seminar in Public Administration, 3 cr

  * The internship requirement will be waived for students with significant public sector work experience.

One seminar (3 cr) in organizational management and leadership selected from the following list:

- Bus Adm 443 Special Topics in Human Resource Management, 3 cr
- Bus Adm 732 Transforming Organizations, 3 cr
- Bus Adm 737 Managerial Decisions and Negotiations, 3 cr

Concentration Requirement (18 credits)

Completion of all the requirements for one of the concentrations in Public Administration (see Public Administration section of the Bulletin). A maximum of six credits of MUP core courses may be used as electives in the MPA concentrations.

Comprehensive Exam

Completion of the comprehensive exam in Urban Planning is required.

Transfer Credits

Graduate coursework in urban planning or a related discipline taken prior to a student's admission to the program may be considered for transfer to the master's degree.

Writing Assessment

Being able to write clearly and effectively is a critical skill for planners. The Urban Planning program encourages improvement in student's writing skills by emphasizing writing improvement across the curriculum, and especially in the core courses.

In some cases, students require more intense instruction to improve their skills to the level needed for planning practice. Faculty members assess student writing proficiency in the first semester core courses. Students who lack the required level of proficiency may be required to take a writing course as part of their second semester program of study. Writing proficiency is also a required element of the comprehensive exam.

Thesis

No formal master's project or master's thesis is required for the MUP degree. However, a thesis may be substituted for as many as 6 elective credits. The student must obtain approval for the thesis proposal from any urban planning faculty member. The students may relate their thesis work to the program core, the general option or an emphasis option.

Comprehensive Examination

All students in the program must take a written comprehensive examination as a requirement for graduation. The examination is given between the second and third semesters so that any deficiencies can be eliminated in the second year of the program through structured courses or directed study. Successful completion of the exam, or successful

completion of courses specified for removal of deficiencies, represents fulfillment of the comprehensive examination requirement. Students in the MS/MUP program also must take and pass the comprehensive examination in engineering.

Time Limit

The degree program itself is designed largely for full-time students. But the program does allow students up to seven years from the time of initial enrollment to complete all degree requirements.

Students in the M Arch/MUP and MPA/MUP programs are allowed up to seven years from time of initial enrollment to complete all requirements for both degrees. Students in the MS/MUP program are allowed up to five years from time of initial enrollment to complete all requirements for both degrees.

Certificate in Geographic Information Systems (GIS)

The Certificate in Geographic Information Systems is designed for those individuals seeking careers as GIS specialists, providing geographic data management, spatial analysis, and GIS system management support to professionals in a broad range of disciplines, such as criminal justice, health services, city and regional planning, civil and environmental engineering, transportation, and marketing. Certificate holders will seek employment in positions such as "GIS Specialist," "GIS Analyst," or "GIS Coordinator."

The School of Architecture and Urban Planning, and the College of Letters and Science jointly offer the certificate. The core courses (12 credits) focus on the structure of geographic data, components for managing geographic information systems, spatial analysis, and delivery of geographic information through maps and displays. Students select the remaining 6 credits for the certificate from electives, which may include an internship, in areas such as remote sensing, map-making, and data management systems.

Upon completion of the certificate courses, a student is awarded the certificate which qualifies for 5 credential points in the GIS Certification Institute's standards for professional certification in GIS.

Application and Admission

Students interested in the GIS Certificate should contact the Department of Urban Planning or the Department of Geography. Those who are not already admitted to a UWM graduate degree program must complete a UW System online admission application and have an official undergraduate transcript sent to the Graduate School. Applicants must have a bachelor's degree with an undergraduate GPA of 2.75 or a graduate degree to be accepted into the certificate program.

For international applicants, whose first language is not English, a score on the Test of English as a Foreign Language (TOEFL) of at least 600 (250 on the computer-based version) or an International English Language Testing System (IELTS) score of 7.0 must also be submitted.

Credits and Courses

A minimum of 6 credits each in Urban Planning and Geography courses are required for completion of the certificate.

Required Courses (12 cr)

Tier 1 (select one course)
- URBPLAN 791, Introduction to Urban Geographic Information Systems for Planning
- GEOG 525, Geographic Information Science

Tier 2 (select one course)
- URBPLAN 792, Using Urban Geographic Information Systems (GIS) for Planning
- GEOG 625, Intermediate Geographic Information Science

Tier 3 (select two courses)
- URBPLAN 793, Applied Projects in Urban Geographic Information Systems
- URBPLAN 794, Internet Geographic Information Systems
- GEOG 725, Advanced Geographic Information Science: Geographic Modeling
- GEOG 734, GIS and Society

Elective Courses (6 cr)

- URBPLAN 771, Transportation Policy and Planning
- URBPLAN 991, Legislative/Administrative Agency Internship
- URBPLAN 999, Independent Study
- ANTHRO 380, Anthropological Applications of GIS
- BUSADM 749, Data Management Systems
- GEOG 403, Remote Sensing: Environmental and Land Use Analysis
- GEOG 405, Cartography
- GEOG 547, Spatial Analysis
- GEOG 698, GIS/Cartography Internship
- GEOG 703, Advanced Remote Sensing
- GEOG 750, Remote Sensing and Urban Analysis
- GEOG 960, Seminar: Geographic Techniques
- Other courses as approved by the GIS Certificate Subcommittee

Grade Point Average Requirement

To continue in the program, a student must maintain a minimum cumulative 3.00 grade point average in certificate courses taken at UWM.

Transfer Credits

Up to 3 credits of graduate coursework in GIS and related courses may be considered for transfer to the certificate program. To be eligible for transfer, the course must have been completed within the last 2 years, the student must have received a grade of B or better, and the GIS Certificate Coordinator must approve the course for transfer.

Time Limit

Students must complete all courses for the certificate within 3 years from the date of initial enrollment in the certificate program.

Certificate in Real Estate Development

Students wishing to earn the Certificate must be enrolled in the Master of Architecture or Master's of Urban Planning program at the University and must complete a minimum of 21 credits from the following groups of courses.

Real Estate Required Core Courses (15 credits)

- Arch 780 The Built Environment and Real Estate Development, 3 cr
- Arch 794 (M Arch. students) Pre-thesis or Master's Project Seminar, emphasis on Real Estate Development, 3 cr or UrbPlan 999 (MUP students) Independent Study, emphasis on Real Estate Development, 3 cr
- Arch 890 or 891 (M Arch. students) Thesis or Master's Project, emphasis on Real Estate Development, 6 cr or UrbPlan 990 (MUP students) Graduate Thesis, emphasis on Real Estate Development, 6 cr
- Bus 483 Property Development and Management, 3 cr or Bus 481 Real Estate Finance, 3 cr

Real Estate Electives (6 credits)

- Arch 560 Introduction to Historic Preservation
- Arch 845 Studies in Urban and Community Design theory (6 credits)
- Arch 749 Urban Design as Public Policy
- Arch 792 Independent study (Internship)
- UrbPlan 651 Land Use Planning Practice
- UrbPlan 661 Neighborhood Planning and Revitalization
- UrbPlan 684 Planning Local Economic Development

- UrbPlan 762 Housing Markets and Public Policy
- UrbPlan 991 Internship (real estate focus)
- UrbStd 720 Theory and Method in Local Economic Development
- Econ 412 Urban Economics

Note Individuals seeking to use the School's Shop must first provide evidence of personal accident and health insurance to the Dean's office. Since no accident or health insurance is provided to any user by the University, access to this resource will be prohibited to uninsured individuals.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

614 Planning and the Suburbs: Their Growth and Maturity. 3 cr. U/G.
Relationships between suburbs and cities and differences in their architecture, goverance, and provision of public services as well as current trends in suburban development. Prereq: sr st.

630 Budgeting and Finance in the Public Sector. 3 cr. U/G.
Examination of the budgeting process in the public sector; development of skills in budgeting and financial management. Topics include capital budgeting, debt management, revenue forecasting, and auditing. Jointly offered w/Pol Sci 630. Prereq: sr st or cons instr.

651 Land Use Planning Practice. 3 cr. U/G.
Specific land planning methods and applications (subdivision regulation, zoning, site plan review, building permit process) used to implement community plans. Prereq: sr st.

655 Negotiation Theory and Practice for Urban Planners. 3 cr. U/G.
Negotiation theory and practice, focusing on skills used by planners in balancing the needs of general public with those of private interests. Counts as repeat of UrbPlan 692 with same title. Prereq: sr st or cons instr.

661 Neighborhood Planning and Revitalization. 3 cr. U/G.
Problems, resources and potentials of urban neighborhoods; trends of neighborhood change and revitalization; neighborhood planning approaches, methods and cases; neighborhood planning project or case study. Prereq: sr st or cons instr.

662 Land Use Planning for Urban Redevelopment. 3 cr. U/G.
Introduction to contemporary trends in urban redevelopment; focus on planning and development techniques used to revitalize declining urban areas. Prereq: jr st.

683 Planning for Small Towns. 3 cr. U/G.
Planning needs of small and rural communities. Downtown, industrial and commercial revitalization methods. Economic, population, geographic and environmental growth management processes. Classroom and field applications. Prereq: sr st or cons instr.

684 Planning Local Economic Development. 3 cr. U/G.
Exploration of the role of planning in the generation, evaluation, and implementation of policies for the development and revitalization of communities. Prereq: jr st & cons instr.

692 Special Topics in Urban Planning: (Subtitled). 1-3 cr. U/G.
Provides a format for the development and presentation of new material in Urban Planning on an experimental, one-term basis. Specific cr & any additional prereqs announced in Schedule of Classes whenever course is offered. Retakeable with change in topic to max of 9 cr. Prereq: jr st or cons instr.

701 Introduction to Land Use Planning. 1 cr. G.
Introduction to contemporary land use planning emphasizing the four primary tools of development regulation: comprehensive planning, zoning, subdivision regulation, and capital improvement programming. Prereq: grad st.

702 Introduction to Planning Law. 2 cr. G.
Constitutional and statutory authority for and limits on local government regulation of land use. Application of key concepts, including police power, due process, and property. Prereq: grad st.

711 Planning Theories and Practice. 3 cr. G.
Theories about how planners should act in the planning process. History, values, and ethics of the profession; methods of participation; discussion of power in planning. Prereq: grad st.

720 Urban Development Theory and Planning. 3 cr. G.
Spatial, social, economic, and political processes that shape urban development. Application of these processes to fomulate and critique urban plans and policies. Prereq: grad st; admis to UrbPlan or cons instr.

721 Applied Planning Methods. 3 cr. G.
Data sources and analysis techniques for urban planning. Survey design, economic analyses, benefit/cost analysis, market areas; the complexities of public and private data sources. Prereq: grad st

740 Data Analysis Methods I. 3 cr. G.
Application of quantitative methods most commonly used in urban planning and analysis of the built environment. Prereq: grad st; admis to UrbPlan prog, Arch prog, or cons istr.

750 Special Topics in Land Use Law. 3 cr. G.
Legal research on land use law topics. Concepts in land use law and advanced skills in applying law to contemporary land use issues. Prereq: grad st; UrbPlan 710(P); or cons instr.

751 Introduction to Urban Design and Physical Planning. 3 cr. G.
Planning for human needs as related to the physical layout and spatial design of urban environments. Prereq: grad st.

762 Housing Markets and Public Policy. 3 cr. G.
An examination of natural and local housing markets, their components and operations, and the impacts on them of a variety of public and private actions. Prereq: grad st.

771 Transportation Policy and Planning. 3 cr. G.
Seminar on the evolution of urban transportation systems and policies, transportation finance, land use and transportation interactions, and transportation planning and policy evaluation techniques. Prereq: grad st or cons instr.

780 Seminar in Environmental Planning Issues. 3 cr. G.
Planning values, tools, and skills for the conservation of land, water, air ecosystems and other natural resources. Current local case studies and applications. Prereq: grad st.

781 Environmental Law and Policy. 3 cr. G.
Seminar on major state and federal environmental laws as they apply to planning and development; economic and social effects of environmental problems and laws. Prereq: grad st.

791 Introduction to Urban Geographic Information Systems for Planning. 3 cr. G.
Use of spatially related information including gis and land records systems for improved productivity and decision making in service delivery, management, policy-planning, and land development. Prereq: grad st.

792 Using Urban Geographic Information Systems (GIS) for Planning. 3 cr. G.
A 'hands on' course in gis using commercial gis software in a computer laboratory setting to provide experience solving problems related to planning and government. Prereq: grad st; Urbplan 791(P) or cons instr.

793 Applied Projects in Urban Geographic Information Systems. 3 cr. G.
Use of a geographic information system (GIS) and actual data from local government to analyze a real world problem or issue requiring spatial data analysis. Prereq: grad st; Urbplan 791 or cons instr.

794 Internet Geographic Information Systems (GIS). 3 cr. G.
Seminar on theoretical background and hands-on experience with technologies for developing GIS applications on the Internet, the web, and wireless networks.

Prereq: grad st; UrbPlan 792(P); or cons instr.

797 Study Abroad. (Subtitled). 3-12 cr. G.
Field study designed to provide relevant course work for a study abroad program in urban planning. Prereq: grad st; acceptance to Study Abroad Program

810 Planning Policy Analysis. 6 cr. G.
Application of planning analysis tools in the context of policy issues involving planners; a case studies approach stressing both policy analysis and the role of the planner. Prereq: grad st; UrbPlan 701(P), 702(P), 711(P), 720(P), 721(P), 740(P); or cons instr.

811 Applied Planning Workshop. 3 cr. G.
Application of planning concepts, principles, processes and techniques to a selected realistic problem, issue, or project context at an appropriate scale ranging from the neighborhood to the state. Prereq: grad st; UrbPlan 810(P).

841 Seminar in Planning Analysis: (Subtitled). 3 cr. G.
Application of one planning methodology: theory, case studies, preparation and presentation of major student project. Retakeable with change in topic to max of 6 cr. Prereq: grad st.

857 Urban Design as Public Policy. 3 cr. G.
Orients students in urban planning to urban design problems as matters of public policy with focus on the analysis and implementation of urban design proposals rather than on the techniques used to generate such proposals. Not open to students who have cr in Arch 749 which is identical to UrbPlan 857. Prereq: grad st.

858 Studio in Urban Design and Physical Planning. 6 cr. G.
Projects and seminars apply urban planning principles to problems of urban design and physical planning to develop students' abilities to evaluate and effectively criticize proposals. Prereq: grad st; Urbplan 751(P) or 857(P).

880 Challenges to Urban Sustainability. 3 cr. G.
Urban environmental management theory and practice, history of the environmental crisis, and alternative strategies for understanding human activity/ecological process relationships in urban areas. Jointly-offered w/& counts as repeat of Geog 880. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee assessed for 1 cr. Prereq: grad st

990 Graduate Thesis. 3-6 cr. G.
Thesis under the direction of graduate planning faculty. May be retaken to max of 6 cr, which can be substituted for elective credits. Prereq: grad st, cons instr; successful completion of comprehensive exam.

991 Legislative/Administrative Agency Internship. 3-6 cr. G.
Research project assignments with elected legislative officials and administrative agencies. Assignments will be cooperatively developed and supported by an integrating seminar discussing both experience and theory in a planning implementation context. May be retaken with change in topic to max of 6 cr. Prereq: grad st; cons instr.

992 Seminar in Urban Planning: (Subtitled). 1-3 cr. G.
Advanced study of special topics in urban planning. Specific cr & any additional prereqs announced in schedule of classes whenever course is offered. Retakeable with topic change to max of 6 cr. Prereq: grad st or cons instr.

999 Independent Study. 1-3 cr. G.
Individual work in urban planning. Variable content course. Retakeable to max of 9 cr. Prereq: grad st; cons instr.

URBAN STUDIES PROGRAMS

- Phone: (414) 229-4751
- E-mail:usp@uwm.edu

School/College: College of Letters and Science

Degrees Conferred:

- MS in Urban Studies
- PhD in Urban Studies

Overview

Urban Studies Programs offers two interdisciplinary graduate programs of study. Both programs are jointly sponsored by the Departments of History and Sociology and include participating faculty from these two departments plus Geography and Political Science.

The Master of Science degree program in Urban Studies provides students with a broad understanding of urban society and trains them in research techniques appropriate to the study of metropolitan communities. The course of study stresses the understanding of social processes and the analysis of social and economic policies affecting cities.

All MS students must complete a five-course core curriculum that establishes a common base of knowledge and research skills. On completing the core, students have two options. They may either secure a generalist degree, requiring 15 additional credits in elective courses, or they may specialize in an area of concentration in consultation with the MS Program Coordinator. The specialist option requires 15 credits in specified courses beyond the core. Both options require either a master's thesis or a master's paper. Graduates are prepared to enter professional careers in government or social agencies, or to enter doctoral programs for further study.

The PhD degree program in Urban Studies is designed to prepare individuals to obtain employment in academic departments, as well as government institutions and social agencies, and to conduct sophisticated research in the field of urban studies. The course of study emphasizes history, research methodology, and social science theory.

MS/MLIS Coordinated Degree Program

In cooperation with the School of Information Studies, Urban Studies Programs offers an MS/MLIS program to prepare students for positions as urban information specialists. Students in this program concurrently pursue an MS in Urban Studies and a MLIS degree program. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree.

Graduate Faculty

(Professors' home departments appear in parentheses)

Professors

Anderson, Margo, Ph.D., Rutgers University (History)
Greer, Ann, Ph.D., Northwestern University (Sociology)
Levine, Marc, Ph.D., University of Pennsylvania (History)
Meyer, Stephen, Ph.D., Rutgers University (History)
Mathiowetz, Nancy, Ph.D., University of Michigan (Sociology)
Montgomery, Rhonda, Ph.D., University of Minnesota (Sociology)
Percy, Stephen, Ph.D., Indiana University (Political Science)
Shashko, Philip, Ph.D., University of Michigan (History)
Velez, William, Ph.D., Yale University (Sociology)

Associate Professors

Austin, Joe, Ph.D., University of Minnesota (History)
Bharadwaj, Lakshmi, Ph.D., University of Wisconsin-Madison (Sociology)
Bohte, John, Ph.D., Texas A&M University (Political Science)
Costello, Carrie Yang, Ph.D., University of California-Berkeley (Sociology)
DeSousa, Christopher, Ph.D., University of Toronto (Geography)
Edari, Ronald, Ph.D., Northwestern University (Sociology)
Frankfort-Nachmias, Chava, Ph.D., University of Oregon (Sociology)
Ghose, Rina, Ph.D., University of Wisconsin - Milwaukee (Geography)
Gordon, Michael, Ph.D., University of Rochester (History)
Green, Donald, Ph.D., University of Minnesota (Sociology)
Ihrke, Douglas, Ph.D., Northern Illinois University (Political Science)
Jordan, Jennifer, Ph.D., University of California - San Diego (Sociology)
Kenny, Judith, Ph.D., Syracuse University (Geography)
McCarthy, Linda, Ph.D., University of Minnesota (Geography)
Oliker, Stacey, Ph.D., University of California-Berkeley (Sociology)
Rast, Joel, Ph.D., University of Oregon (Political Science)
Redding, Kent, Ph.D., University of North Carolina-Chapel Hill (Sociology)
Renda, Lex, Ph.D., University of Virginia (History)
Rodriguez, Joseph A., Ph.D., University of California-Berkeley (History)
Seligman, Amanda, Ph.D., Northwestern University (History)
Wilson, F. Harold, Ph.D., University of Michigan (Sociology)

Assistant Professors

Aneesh, A, Ph.D., Rutgers University (Sociology)
Chesley, Noelle, Ph.D., Cornell University (Sociology)

Master of Science in Urban Studies

Admission

An applicant must meet Graduate School requirements plus the following requirement to be considered for admission:

- Undergraduate major in one of the social sciences or experience in relevant occupational roles such as planning, community organization or social work.
- Two letters of recommendation from persons familiar with the applicant's academic ability. Recommendation forms may be obtained from the Urban Studies Programs office.
- Submission of Graduate Record Examination scores is recommended but not required.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Major Professor as Advisor

The Coordinator of the Urban Studies Master of Science degree program acts as the initial advisor to all entering students. Therefore, upon admission to the program, students should meet with the Coordinator to discuss their course of study. As specified by The Graduate School, the student must have a major professor to advise and supervise the student's studies. Once the student has defined an area of interest within Urban Studies, an advisor with similar interests may be chosen from among the other members of the USP faculty.

Credits and Courses

The minimum degree requirement is 30 graduate credits. All Urban Studies students are required to take a core curriculum of 15 credits:

- Urb Std 731 Quantitative Analysis in Urban Research (or equiv)
- Urb Std 921 Seminar: Research Methods in Urban Studies
- *Three of the following four substantive courses*
- Urb Std 901 Seminar: Urban Social Structure

- Urb Std 913 Urban Political Process
- Urb Std 945 The Internal Structure of the City
- Urb Std 971 Seminar in the History of American Urban Problems

MS/MLIS

Students in the MS/MLIS program follow all of the requirements and standards as described in this section of the Bulletin with the following joint exceptions: 21 of the 24 credits, including the optional 3 credits for a master's thesis, required for the Urban Studies portion of the joint degree are taken within USP. All courses in related areas and any exceptions to the 21 credit rule must be reviewed by the Coordinator of Urban Studies. All courses selected are expected to be consistent with the objectives of the Urban Studies program.

Paper or Thesis

A master's paper or thesis is required to receive the MS degree in Urban Studies. A master's paper may be developed from a seminar paper and should demonstrate conceptual ability and research competence in a sub-area of Urban Studies. It is expected that the master's paper will be prepared in a scholarly fashion conforming to the format characteristics of journal articles published in the chosen area of study.

A master's thesis is a more formal document of greater breadth and depth than a master's paper. Students should refer to Master's Thesis and Doctoral Dissertation Format Requirements for information regarding preparation and review of the thesis.

Regardless of the option chosen, the student, in consultation with the faculty advisor, must assemble a committee of three faculty who will serve as the paper or thesis examination committee. The student must pass an oral examination based on the paper or thesis. Students who elect to write a master's theses may enroll in USP 990 and earn up to 3 credits toward the MS degree.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Urban Studies

Admission

An applicant must meet Graduate School requirements, hold a master's degree or the equivalent in a social science or a related field, and meet the criteria established by the Urban Studies Programs Faculty to be considered for admission:

1. Three letters of recommendation from persons familiar with the applicant's academic work. Recommendation forms may be obtained from the Urban Studies Programs office.
2. A sample of the applicant's written work that demonstrates the applicant's ability to conduct independent social science research and/or the ability to critically analyze the work of others.
3. A letter of intent outlining the applicant's reasons for graduate study.
4. GRE scores.
5. A response to a question that elucidates the applicant's reasons for taking up the academic study of urban affairs and describes her/his intellectual ambitions in the field.

Course of Study

Minimum degree requirement is 33 credits beyond the master's degree, at least 27 of which must be earned in residence at UWM. Of the total credits required, 9 credits must be completed in methodology and analysis (USP 979, 982, 984), 9 credits in theory and history (USP 980, 981, 983), and 6 credits in the thesis course (USP 991). (Students may enroll for additional thesis credits but no more than 6 credits may be counted toward fulfilling the degree requirements.)

In addition, the student is expected to plan a program of study with the student's graduate advisor and major professor in order to gain competence in one of the faculty areas of specialization. These include a variety of specializations that are published annually on the urban studies Web site, http://www.uwm.edu/Dept/Urban_Studies/phd.html. The student is required to take 9 credits (three courses) at the 700 level or above in the specialization field, no more than 3 credits of which may be in independent study courses. Specific courses that can be taken as part of the different specializations also are listed on the Urban Studies Web site.

Residence

The PhD student may meet the residence requirement by completing 8 or more graduate credits in each of two consecutive semesters, exclusive of summer sessions, or by completing at least 6 graduate credits in each of three consecutive semesters, exclusive of summer sessions.

Doctoral Preliminary Examination

The student must pass a doctoral preliminary examination to qualify for formal admission to candidacy for the degree.

Dissertation

The candidate, working under the supervision of the major professor and the candidate's dissertation committee, must write a dissertation which demonstrates ability to formulate a research topic and pursue original investigation.

Dissertation Defense

The candidate must, as a final step toward the degree, pass an oral examination in defense of the dissertation.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

For additional information on the PhD, see the Graduate School Doctoral Requirements page.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

450 Urban Growth and Development: A Global View. 3 cr. U/G.
Urban growth and development from an international perspective. Prereq: jr st or cons instr.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially-prepared program course work. Prereq: jr st; acceptance for Study Abroad Prog, contact CIE Overseas Programs, PER 166, 229-5182.

601 Fundamentals of Urban Planning. 3 cr. U/G.
Introduction to city and metropolitan planning. Includes the historical background, philosophy, theory, process, techniques, procedures, tools, and administration of planning. Prereq: sr st.

607 Aging and Public Policy. 3 cr. U/G.
The politics of aging policy, the substance and shift in major aging legislation, the 'graying' of the federal budget and its consequences for aging policy. Prereq: jr st; college-level course in Econ, Sociol, Pol Sci, or Urb Std recom.

625 Law and Urban Poverty. 3 cr. U/G.
Examination of the relationship between law and poverty, with emphasis upon federal legislative attempts in specific problem areas to alleviate the condition of poverty. Prereq: jr st; cons instr.

639 Health Care and Public Policy in the United States. 3 cr. U/G.
Health care policies in the United States. Prereq: jr st or cons instr.

701 Comparative Urban Development. 3 cr. G.
A cross cultural examination of urban development analyzing the manner in which European and other countries approach the problems or urban growth and redevelopment. Prereq: grad st.

704 Seminar in Nonprofit Organizations. 3 cr. G.

Overview of structure, functions, and governance of nonprofit organizations. Comparison with government and for-profit organizations. Pol Sci 704, Sociol 704, & Urb Std 704 are jointly offered; they count as repeats of one another. Prereq: grad st.

719 Social Objectives Of Urban Development. 3 cr. G.

Examination of the empirical and normative theory of urban communities and their social goals. Prereq: grad st.

720 Theory and Method in Local Economic Development. 3 cr. G.

Major economic concepts and methods relevant to the analysis of public sector economic development policy. Emphasis on spatial markets and local public finance. Prereq: grad st.

725 Methods of Urban Community Development. 3 cr. G.

A multi-disciplinary, applied social science approach to the development of organizational, institutional, and sub-community action systems in urban areas. Prereq: grad st & cons instr.

726 Advanced Methods of Urban Community Development. 3 cr. G.

Evaluation of model cities, community health, community corporations, decentralized government. Practice issues: program design, federal policy, consulting, training, participation, decision making process, economic feasibility. Future models. Prereq: grad st & cons instr.

728 Urban Community Workshop. 3 cr. G.

Group research into specific milwaukee problems conducted jointly under the supervision of departmental faculty and community leaders stressing practical and theoretical applications. Prereq: grad st.

731 Quantitative Analysis for Public Administration and Urban Research. 3 cr. G.

Application of various quantitative methods to problems in public administration and urban research, including analysis of spatial distributions, quantitative modeling, bivariate and multivariate analyses. Prereq: grad st.

732 Applications of Computer Technology in Urban Affairs. 3 cr. G.

Survey of applications and assignments in statistical analysis, data processing, projection, and simulation. Use of "canned" and original programs. Computer management issues. Prereq: grad st; cons instr, conc reg fortram short course.

733 Public Program Evaluation. 3 cr. G.

Scope and methods of evaluation: analytic background and skills necessary in evaluation. Discuss and analyze citizens' preferences, legislative intent, bureaucratic implementation, and goal attainment. Prereq: grad st.

734 Urban Demography: Methods and Emerging Policy Issues. 3 cr. G.

Major demographic processes (fertility, mortality and migration) are examined within the context of urban social policy. The principal focus is on methods required to assess demographic change. Prereq: grad st.

740 Alternative Urban Futures. 3 cr. G.

Introduction to planned or imagined urban futures. Emphasis on determining the ends-means relationships with special reference to the organizational, social and economic correlates of anticipated systems. Use and development of a selected methodology which deals with discontinuities. Prereq: grad st.

741 Introduction to Metropolitan Development. 3 cr. G.

Preview to metropolitan development from an analytical viewpoint. Emphasis on the quantitative tools and conceptual framework necessary to interpret phenomena in a metropolitan area. Prereq: grad st.

770 The Law and the American City. 3 cr. G.

Legal environment of american cities; powers of municipal corporations; relations of municipalities to state and federal governments as controlled by constitutions, statutes, and judicial decisions; special government units; local authorities and bill of rights limitations. Prereq: grad st.

830 Seminar in Dynamics of Metropolitan Development. 3 cr. G.

Overview of urban development, particularly the role of resource use and economic efficiency in the metropolis, with emphasis on functions of metropolitan subareas. Prereq: grad st; cons instr.

832 Urban Policies: Analysis and Alternatives. 3 cr. G.

Methods of determining policies in various areas of urban development. Emphasis on economic determinants of problems and effectiveness of alternative public actions and expenditures. Prereq: grad st; cons instr.

833 Bureaucracies in the Public Sector. 3 cr. G.

The roles of public bureaucracies in democratic political systems. Their structures, processes, and behavior. Prereq: grad st.

840 Community Health Planning. 3 cr. G.

Examination of processes of planning for delivery of integrated systems of health services to the urban community. Social, economic, political and organization factors are discussed and interrelated. Prereq: grad st.

841 Health Policy in Urban Society. 3 cr. G.

Emerging health policy in modern society. Emphasis on the uncertainty of goals, contending interest, and the urban context. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.

Available for master's students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

890 Urban Social Institutions Institute: 3 cr. G.

Interdisciplinary study of selected urban and metropolitan problems. Focuses on the analysis of forces shaping the metropolitan milieu. Retakable w/chg in topic to 9 cr max. Prereq: grad st or cons UrbInst coord.

901 Seminar: Urban Social Structure. 3 cr. G.

Comprehensive analysis of the emergence and institutionalization of cultural and social patterns in urban settings; and future American urban social structures. Sociol 901 & Urb Std 901 are jointly-offered & count as repeats of one another. Prereq: grad st.

911 Urban Development and Redevelopment. 3 cr. G.

Urban development seen as a cycle: problem identification, policy response, development implementation, evaluation in redevelopment. Economic, social, and political development, private and public, national and local. Prereq: grad st.

913 Seminar in Urban Political Process. 3 cr. G.

Analysis of the forces and processes that shape urban political life, with particular emphasis on patterns of government, political culture, power structures, and civic participation in urban and metropolitan communities. Pol Sci 913 & Urb Std 913 are jointly offered; they count as repeats of one another. Prereq: grad st.

921 Seminar: Research Methods in Urban Affairs. 3 cr. G.

Methodological orientations and techniques in urban affairs: philosophy of science, conceptualization measurements, research designs, data collection, data analysis. Prereq: grad st.

927 Urban Internship. 2-3 cr. G.

Advanced application and analysis of theory and acquired skills in supervised agency assignment. Retakable to 6 cr max. Prereq: grad st.

932 Labor, Leisure, and the American City. 3 cr. G.

Interdisciplinary seminar organized to focus on urban policies and programs pertaining to the urban labor force and the quality of life. Prereq: grad st.

933 Development of the Workforce in American Cities, 1880 to the Present. 3 cr. G.

The factory and work setting in their relation with community and home life. Prereq: grad st.

939 Urban Lifestyle and Holistic Health Care. 3 cr. G.

Examines the implications of urban life style for health promotion and protection with special emphasis on developing appropriate health maintenance modalities. Prereq: Urb Std 639(P) or 841(P).

945 The Internal Structure of the City. 3 cr. G.

The interaction of forces responsible for the evolution of the city as a spatial form and the allocation of economic and social activity within the spatial configuration.

Geog 945 & Urb Std 945 are jointly-offered; they count as repeats of one another. Prereq: grad st.

960 Seminar: The City in Theory and Practice: (Subtitled). 3 cr. G.
Problems of integration in urban theory and of the role of the urbanist in treating key public policy issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st; regis in Urb Std prog.

965 Municipal Management. 3 cr. G.
The political, social, and economic contexts in which the urban manager functions, with an emphasis on managing municipal service delivery and resources. Pol Sci 965 & Urb Std 965 are jointly offered; they count as repeats of one another. Prereq: Grad st.

970 Seminar-The City in History. 3 cr. G.
Analysis of the historical forces that have helped shape urban life; examination of the role and use of history in social science research involving urban phenomena. Prereq: grad st.

971 Seminar on the History of American Urban Problems. 3 cr. G.
Historical analysis of the current problems of housing, race relations, the powers and functions of municipal government, law enforcement, and city planning in the United States. Hist 971 & Urb Std 971 are jointly offered; they count as repeats of one another. Prereq: grad st.

979 Methods of Research and Analysis for Urban Social Institutions I. 3 cr. G.
Seminar on logic, design, and presentation of social science research. Inductive and qualitative methods, theory construction, and ethics and procedures of research in natural settings. Sociol 979 & Urb Std 979 are jointly-offered; they count as repeats of one another. Prereq: grad st.

980 Growth of Urban Society. 3 cr. G.
Seminar in historical, social, and ecological growth and development of urban agglomerations. Comparative framework will be used to examine the urban process. Hist 980 & Urb Std 980 are jointly offered; they count as repeats of one another. Prereq: grad st.

981 Perspectives Toward Change in Urban Social Institutions. 3 cr. G.
Historical and ideological bases for urban social institutions. Growth of social institutions and role of government in supporting and controlling them. Prereq: grad st.

982 Methods of Research and Analysis for Urban Social Institutions II. 3 cr. G.
Evaluation of different methods of generating data and their applications to the analysis of public policies and programs. Sociol 982 & Urb Std 982 are jointly offered; they count as repeats of one another. Prereq: grad st; min. score of 85 on dept diagnostic exam.

983 Contemporary Urban Social Structure and Change. 3 cr. G.
Range of research issues conceptualized in terms of major categorical and more intentional social structures that bear on urban social actions. Prereq: grad st.

984 Research Project in Urban Institutions. 3 cr. G.
Structural research problem in which doctoral students can master research techniques needed in pursuing dissertation and later in career research. Prereq: grad st.

985 Seminar in Urban Delivery Systems. 3 cr. G.
Structure, processes, and roles of selected social service urban delivery systems as they relate to institutional responsiveness and societal needs. Prereq: grad st.

986 Urban Public Policy and Social Institutions. 3 cr. G.
Government forms and processes bearing on formation and implementation of urban social policies. Prereq: grad st.

987 Urban Social Control. 3 cr. G.
Graduate seminar introducing concepts of social control, pervasiveness of social control, and how social control is maintained in urban environments. Prereq: grad st.

988 Seminar in Urban Social Institutions: (Subtitled). 3 cr. G.
Historical and sociological forces shaping selected urban issues and social institutions. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

990 Master's Research or Thesis. 1-3 cr. G.
Research or thesis work for students in the master's program in Urban Studies. Prereq: grad st.

991 Doctoral Research or Dissertation. 1-6 cr. G.
Research or dissertation work for students in the doctoral program in Urban Studies. Retakable. Prereq: grad st.

998 Independent Study for Master's Students. 1-3 cr. G.
Independent study in a subject area of special need or interest after consultation with a faculty member. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

999 Independent Study for Doctoral Students. 1-3 cr. G.
Independent study in a subject area of special need or interest after consultation with a faculty member. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

WOMEN'S STUDIES

- Phone: (414) 229-5918
- E-mail: womens@uwm.edu

School/College: College of Letters and Science

Certificate Conferred: Graduate Certificate in Women's Studies

Graduate Certificate in Women's Studies

The Graduate Certificate Program in Women's Studies is designed for students enrolled in a graduate program in any field who wish to complement their training with an additional specialization in Women's Studies.

A certificate signifying completion of the Certificate Program requirements will be awarded in conjunction with the student's graduate degree.

Students who previously received a master's or doctoral degree also may enroll in the Graduate Certificate Program as non-degree graduate students.

The Women's Studies Graduate Certificate requires completion of 15 graduate credits in approved courses with an overall GPA of 3.0. The following are required:

1. Wmns 401 Global Feminisms U/G, 3 cr (Students who previously earned undergraduate credit in this course will substitute, with the approval of the program Director, a graduate course with a focus on globalization and women.).

2. Wmns 710 Feminist Theory, G, 3 cr.

3. Electives, 9 cr selected from a combination of Wmns and approved cross-listed G or U/G courses in other programs and departments.

Students wishing to obtain the certificate must declare their intent to the Director of Women's Studies.

No more than 6 credits in U/G courses can apply toward the certificate, and a maximum of three credits in independent study may count toward the 15 credits required for the certificate. At least three credits must be taken outside of Women's Studies and the student's home department or discipline (i.e., the program in which the student currently is enrolled as a graduate degree candidate or in which the student has received an advanced degree).

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

401 Global Feminisms. 3 cr. U/G.
Interdisciplinary study of women and gender in international perspective, including topics such as work, religion, ideology, and UN conferences. Prereq: jr st & Wmns 200(P) or 201(P); or grad st.

410 (effective 01/26/2009) Feminist Theory. 3 cr. U/G.
Interdisciplinary survey of theories that shape and inform women's studies and feminist scholarship. Prereq: jr st; Wmns 200(P) or 201(P); or grad st.

410 Theoretical Traditions in Women's Studies. 3 cr. U/G.
Interdisciplinary survey of theories that shape and inform women's studies and feminist scholarship. Not retakable. Prereq: jr st; Wmns 200(P) or 201(P); or grad st.

411 (400) Women's Studies Research and Methods: (Subtitled). 3 cr. U/G.
Interdisciplinary course with focus on women's studies research methods, explored through selected topics such as 'Gendered Bodies.' Not retakable. Prereq: jr st, Wmns 200(P) or 201(P), & Wmns 410(P) or equiv; or grad st.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work levels, content, and credits are determined and/or in specially-prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

500 Advanced Social Science Seminar in Women's Studies: (Subtitled). 3 cr. U/G.
Theoretical foundations of feminist research and exploration of the tools, methodology and analytical skills employed in interdisciplinary women's studies scholarship. Retakable w/chg in topic to 9 cr combined max for Wmns 500 & 501. Prereq: jr st; 6 cr in women's studies.

501 Advanced Humanities Seminar in Women's Studies: (Subtitled). 3 cr. U/G.
Theoretical foundations of feminist research and exploration of the tools, methodology, and analytical skills employed in interdisciplinary women's studies scholarship. Retakable w/chg in topic to combined max of 9 cr for Wmns 500 & 501. Prereq: jr st; 6 cr in women's studies.

599 Topics in Women's Studies: (Subtitled). 1-3 cr. U/G.
Specific topics, cr, and add'l prereqs announced in Schedule of Classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

710 (effective 01/26/2009) Advanced Feminist Theory. 3 cr. G.
Interdisciplinary graduate-level seminar on introductory themes, issues, and conflicts in feminist theory. Prereq: grad st

710 Feminist Theory. 3 cr. G.
Interdisciplinary graduate-level seminar on introductory themes, issues, and conflicts in feminist theory. Prereq: grad st

999 Advanced Independent Work. 1-6 cr. G.
Independent reading or project; topic selected in agreement with supervising professor. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons Wmns dir.