EMBARK ON YOUR PATH.
We’ll show you the way.
catalog.uwlax.edu/undergraduate
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Welcome to UW-La Crosse's undergraduate and graduate catalog site. These catalogs contain important information about undergraduate and graduate programs, courses, policies, faculty/staff, and facilities.

UWL catalogs do not establish a contractual relationship. Instead, they summarize the total requirements a student must meet before qualifying for a degree and exist, not only to help prospective students and others learn about UWL, but also to provide a statement of policies, requirements, regulations, and procedures in a form helpful to all.

These catalogs are published yearly and are a snapshot of UWL at the time of publication in June. Changes that occur after publication will be included in the next catalog.

Start learning more about UWL by selecting one of the categories on the left.
Graduate Catalog

This is a record of graduate programs, courses, and policies as of June 1, 2016. Changes that occur after the June publication date will be included in the next catalog.

Welcome

Welcome and thank you for your interest in the University of Wisconsin-La Crosse. UWL offers over twenty graduate programs, from the hard sciences to the health professions, from business to education and the social sciences. We are proud of our innovation and the opportunities provided for close interaction with excellent faculty through coursework, research, and practical experiences both on campus and in the community. Our focus is on the delivery of high quality experiences that prepare individuals both for careers in their fields and for further education at the doctorate level.

The College of Business Administration, the College of Science and Health, the College of Liberal Studies, and the School of Education, Professional & Continuing Education each offer graduate programs. Many of our courses and programs are offered on campus in traditional formats. We also have a growing number of courses and degrees delivered to students off campus through both on-line courses and face-to-face courses delivered in communities across the State of Wisconsin.

Our graduate faculty members are committed to providing high quality, innovative, and challenging opportunities for personal and professional development. We offer a learning environment that places students at the leading edge of their fields and prepares them for continued success.

We look forward to you joining us as you continue your formal education. I invite you visit the Office of University of Graduate Studies (http://www.uwlax.edu/graduate-studies) at 233 Graff Main Hall for more information.

Sincerely,
Steven Simpson
Director Graduate Studies

About this catalog

In compiling our catalog, we have used the most current and accurate information available to us at this time. However, we reserve the right to change any of the information in this catalog at any time and without giving prior notice. When the UW System or UWL campus deletes or revises any of the information in this catalog, the changes take effect as soon as it is appropriate. At times, changes are applicable to all students regardless of which catalog they are following.

This catalog does not establish or constitute a contract between UW-La Crosse and its students. Instead, it provides descriptive and summary information outlining university rules, policies, regulations, course listings, and degree programs. It is important for students to become acquainted with UWL requirements and regulations and to continue to keep informed about them while they are enrolled.

Courses listed in this catalog are subject to change through normal academic procedures. New programs and courses, and changes in existing course work are initiated by departments or programs and approved by the appropriate academic dean, the curriculum committees, and the faculty senate. Additions to the curriculum for the ensuing years are published in the official curriculum committee minutes which are on file with Faculty Senate (http://www.uwlax.edu/facultysenate/committees/GCC) and in the Office of Records and Registration.
About UW-La Crosse

- UW-La Crosse: a profile (p. 6)
- Freedom of thought and expression (p. 6)
- Civil rights (p. 6)
- Accommodation of religious beliefs (p. 6)
- Accessibility for individuals with disabilities (p. 7)

UW-La Crosse: a profile

The University of Wisconsin-La Crosse continues to position itself among the country's elite public universities. The university is the state's top-ranked public or private higher education institution by the US News & World Report for master's degree institutions and has been ranked among the top four Midwestern public institutions for more than a decade. UWL is also listed annually among Kiplinger's Top 100 Best Values, and has been on its national list of the "25 Best College Values Under $30,000 a Year." UWL is one of only 23 colleges nationwide recognized by U.S. News & World Report's Best Colleges Rankings (2016) for stellar undergraduate research and creative projects.

The student body of around 10,500 from 44 states and more than 27 countries is impressive. The retention rate is an outstanding 85 percent. The six-year graduation rate for students beginning in fall 2009 was 69 percent, well above the national average. Around 20 percent of students study abroad.

UWL offers 94 undergraduate programs in 30 disciplines and 26 graduate programs and emphases. Students learn directly from professors, not assistants. An 18:1 student-faculty ratio means small classes. Students learn directly from professor - including the Wisconsin Professor of the Year, an honor UWL faculty have earned four of the last five years.

The university is organized into three academic colleges and two schools: the College of Business Administration, College of Science and Health, College of Liberal Studies, the School of Arts and Communication (housed within the College of Liberal Studies), and the School of Education, Professional and Continuing Education. Teacher education is a campus wide commitment. Descriptions of the departments and programs within the colleges as well as general information, college curriculum requirements, and any requirements that apply to specific colleges can be found in the undergraduate (http://catalog.uwlax.edu/undergraduate) and graduate (http://catalog.uwlax.edu/graduate) catalogs or through UWL's Academics (http://www.uwlax.edu/academics) page. Descriptions of pre-professional programs are included in the College of Science and Health. Wisconsin teacher licensure information is included in the School of Education, Professional and Continuing Education section.

The university's intercollegiate athletic teams, the Eagles, compete in 19 sports, predominately in the NCAA Division III, and as of Dec. 31, 2015, have earned 67 national titles, 33 since 2001. The university is proud of the Veterans Memorial Field Sports Complex, a $16.6 million athletic complex completed in 2009 and funded entirely by private donations. The site is home to the annual WIAA State High School Track and Field Championships and has hosted the NCAA Division III National Track and Field Championships numerous times.

The campus lies in a residential section of the city of La Crosse (population 52,000, metro 133,665). La Crosse is a major point of interest on the Great River Road that winds north and south through 10 states along the Mississippi River. The city is nestled on the east bank of the river below towering 500-foot bluffs separated by steep-walled ravines known as coulees. See more about the city and area at La Crosse Country Area Convention & Visitors Bureau (http://www.explorelacrosse.com).

UWL offers much to western Wisconsin by hosting cultural events, regional and national conferences, and prominent speakers. UWL works cooperatively with other area education and medical institutions to foster cutting-edge health care in the region, as well as a state-of-the-art health research and education facility.

The university’s history dates back to 1909 when the La Crosse Normal School opened its doors as a teacher training school. It became a state teachers college in 1927, a state college in 1951, and a state university in 1964. The university became part of the University of Wisconsin System in 1971. Discover more at the University of Wisconsin-La Crosse (http://www.uwlax.edu/Home/Future-Students).

Freedom of thought and expression

The faculty and administration of the University of Wisconsin-La Crosse believe that it is the task of the university to make people safe for ideas, not to make ideas safe for people. Beyond formal lectures and laboratory experiences, the university provides opportunities for the presentation of diverse views to stimulate thought and discussion in the university community. It is the responsibility of the university to strive, over a period of time, to attain a diversified presentation of ideas by people who are engaged in research and social dialogue. Thus, the university seeks to increase student exposure to the ever-expanding world of ideas. In a democratic society, we can do no less. The appearance of any particular speaker on campus implies neither approval nor disapproval by the administration or the faculty of what that speaker says.

Civil rights

The University of Wisconsin-La Crosse is totally committed to providing equal education and employment opportunity regardless of race, sex, color, creed, religion, national origin, disability, ancestry, age, sexual orientation, pregnancy, marital, parental status, gender identity, gender expression, or veteran status. Pursuant to Title IX of the Educational Amendments of 1972, discrimination on the basis of sex is prohibited in any educational program or activity receiving federal financial assistance by way of grant, contract or loan. Pursuant to Title VI of the Civil Rights Act of 1964, discrimination on the basis of race, color or national origin is prohibited. Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 prohibit discrimination on the basis of physical or mental disability. Equal educational opportunity includes: admission, recruitment, extracurricular programs and activities, housing facilities, access to course offerings, counseling and testing, financial assistance, employment, health and insurance services, and athletics. Sexual harassment is a form of sex discrimination that is unlawful and contrary to the fundamental standards of a university community. All grievances, questions or requests for information should be referred to the Office of Affirmative Action (http://www.uwlax.edu/affirmative-action), 131 Graff Main Hall.

Accommodation of religious beliefs

It is the policy of the Board of Regents that students’ sincerely held religious beliefs shall be reasonably accommodated with respect to all examinations and other academic requirements. Pursuant to UWS 22 (https://docs.legis.wisconsin.gov/code/admin_code/uws/22), the claim of a religious conflict should be accepted at face value, and any student with a conflict between an academic requirement and any religious observance must be given an alternative means of meeting the academic requirement. The student must notify the instructor within
the first three weeks of class (within the first week of summer session and short courses) of the specific days/dates for which the student will request relief. Instructors may schedule a make-up examination or other academic requirement before or after the regularly scheduled examination or other academic requirement. Complaints may be filed with the Director of Affirmative Action (http://www.uwlax.edu/affirmative-action).

Accessibility for individuals with disabilities

Section 504 of the Rehabilitation Act of 1973 prohibits discrimination on the basis of disability. Ongoing efforts are being made to ensure that facilities and programs are accessible to all students with disabilities. All students must identify and present documentation (no older than three years) of their disabilities to the Disability Resource Services office in order to receive ongoing accommodations.

Direct student services to those with physical, sensory or learning disabilities/ADHD include, but are not limited to: classroom note takers, tutors, class preregistration, taped textbooks, academic advising, individual/group counseling and equipment loan. Specific requests for assistance or information should be directed to the coordinator of the ACCESS Center (http://www.uwlax.edu/access-center), 165 Murphy Library.

Missions

UW-La Crosse's institutional priorities are guided by the UWL Select Mission, Vision, and Values statements, adopted by the UWL Joint Planning & Budget Committee in March 2015. As part of the University of Wisconsin System, UWL is also guided by the UW System Mission Statement and the Core Mission of the University Cluster Institutions, which applies to all the comprehensive universities in the UW System. At the core of all the mission statements is "The Wisconsin Idea," the principle that the knowledge of the university should be extended to the entire state.

The University of Wisconsin-La Crosse: Mission, Vision, and Values

Adopted by the UWL Joint Planning & Budget Committee, March 2015

Mission

The University of Wisconsin-La Crosse provides a challenging, dynamic, and diverse learning environment in which the entire university community is fully engaged in supporting student success. Grounded in the liberal arts, UWL fosters curiosity and life-long learning through collaboration, innovation, and the discovery and dissemination of new knowledge. Acknowledging and respecting the contributions of all, UWL is a regional academic and cultural center that prepares students to take their place in a constantly changing world community. The university offers undergraduate programs and degrees in the arts and humanities, health and sciences, education, and business administration. The university offers graduate programs related to areas of emphasis and strength within the institution, including business administration, education, health, the sciences, and the social sciences.

Vision

The University of Wisconsin-La Crosse aims to foster within each student the curiosity, creativity, and tenacity necessary to solve the regional, national, and international challenges of the 21st century. The university's official motto mens corpusque ("mind and body") will continue to guide our direction as a student-centered university committed to a quality education for the whole person. As such, it will continue to provide opportunities both inside and outside the classroom for the development of sound mental, emotional, and ethical skills, as well as general well-being. Our students, faculty, and staff will experience the world through constantly evolving technologies and cultures. Thus, the skills of effective communication, critical thought, leadership, and an appreciation for diversity must be the hallmarks of a UWL education.

Values

Fassett Cotton, our institution's first leader, serving from 1909-1924, conceived the original University of Wisconsin-La Crosse educational philosophy of the total development of the individual. Later, history professor and Dean of the College of Arts, Letters, and Sciences, William M. Laux (1922-1967), suggested the symbols of our official university seal along with the accompanying Latin phrase, mens corpusque ("mind and body"), to exemplify our collective commitment to a high quality education for the whole person. The University of Wisconsin-La Crosse values:

- The mens corpusque educational philosophy that recognizes each student as a whole person and aspires to enhance both mind and body through the noble search for knowledge, truth, and meaning central to a wide range of high quality learning experiences and scholarly pursuits.
- Diversity, equity, and the inclusion and engagement of all people in a safe campus climate that embraces and respects the innumerable different perspectives found within an increasingly integrated and culturally diverse global community.
- A high quality of life and work balance, incorporating best practices for shared governance and the acquisition and efficient management of resources, equitable compensation, general wellness, and social, environmental, and economic sustainability.
- Civic engagement and a renewed commitment to the Wisconsin Idea, in which our socially responsible campus serves as a resource for our increasingly intertwined local, state, and global communities, collaborating and sharing resources and expertise to improve the human condition.

The University of Wisconsin System Mission

The mission of the System is to develop human resources, to discover and disseminate knowledge, to extend knowledge and its application beyond the boundaries of its campuses, and to serve and stimulate society by developing in students heightened intellectual, cultural, and humane sensitivities; scientific, professional, and technological expertise; and a sense of value and purpose. Inherent in this mission are methods of instruction, research, extended education, and public service designed to educate people and improve the human condition. Basic to every purpose of the System is the search for truth.

Core Mission of the University Cluster Institutions

1. Offer associate and baccalaureate degree level and selected graduate programs within the context of its approved mission statement.
2. Offer an environment that emphasizes teaching excellence and meets the educational and personal needs of students through effective teaching, academic advising, counseling, and through university-sponsored cultural, recreational, and extracurricular programs.
3. Offer a core of liberal studies that supports university degrees in the arts, letters, and sciences, as well as specialized professional/technical degrees at the associate and baccalaureate level.

4. Offer a program of pre-professional curricular offerings consistent with the university’s mission.

5. Expect scholarly activity, including research, scholarship, and creative endeavor, that supports its programs at the associate and baccalaureate degree level, its selected graduate programs, and its approved mission statement.

6. Promote the integration of the extension function, assist the University of Wisconsin-Extension in meeting its responsibility for statewide coordination, and encourage faculty and staff participation in outreach activity.

7. Participate in inter-institutional relationships in order to maximize educational opportunity for the people of the state effectively and efficiently through the sharing of resources.

8. Serve the needs of women, minority, disadvantaged, disabled, and nontraditional students and seek racial and ethnic diversification of the student body and the professional faculty and staff.

9. Support activities designed to promote the economic development of the state.

**Accreditation**

The University of Wisconsin-La Crosse is **accredited by**:

- AACSB International - The Association to Advance Collegiate Schools of Business
- Accreditation Council for Occupational Therapy Education
- Accreditation Review Committee on Education of the Physician Assistant
- American Chemical Society
- Commission on Accreditation of Athletic Training Education
- Commission on Accreditation for Physical Therapy Education
- Council on Accreditation of Parks, Recreation, Tourism and Related Professions
- Council on Education for Public Health
- Joint Review Committee on Educational Programs in Radiation Technology
- Joint Review Committee on Educational Programs in Nuclear Medicine Technology
- National Association of Schools of Music
- National Association for School Psychologists
- Higher Learning Commission (https://www.hlc.org) and member of the North Central Association (312.263.0456)

**State Authorization Resources**

The University of Wisconsin-La Crosse maintains an up-to-date document where students can check the status of our authorizations in other states (https://docs.google.com/document/d/1PTkq4NoIFTTJB2WEnLoSwJnWM0rdZcJ04NuaFoh1ww/edit?usp=sharing). UWL anticipates joining the Midwestern State Authorization Reciprocity Agreement (http://www.mhec.org/sara) in 2016-17, which will make it easier to provide online education to students residing in other states and clinical experiences for all UWL students.

UWL provides the following list of agencies where students can file a complaint (http://wcet.wiche.edu/advance/state-approval-complaint) against the university, as required in the Program Integrity Rules.

For the student’s convenience, the list of states in which UWL is officially exempted from authorization or in which it is authorized to offer educational programming is duplicated below.

<table>
<thead>
<tr>
<th>State</th>
<th>Status</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>AK</td>
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<td></td>
</tr>
<tr>
<td>AL</td>
<td>Not authorized</td>
<td></td>
</tr>
<tr>
<td>AR</td>
<td>Not authorized</td>
<td>UWL will not be seeking authorization in this state because it is cost prohibitive - cannot offer courses</td>
</tr>
<tr>
<td>AZ</td>
<td>Exempt</td>
<td></td>
</tr>
<tr>
<td>CA</td>
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<tr>
<td>CO</td>
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<td>DC</td>
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<td>DE</td>
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<tr>
<td>FL</td>
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<tr>
<td>GA</td>
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<td></td>
</tr>
<tr>
<td>HI</td>
<td>Exempt</td>
<td></td>
</tr>
<tr>
<td>IA</td>
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<td>Approved for online programs that do not have a structured field experience for course credit</td>
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<tr>
<td>ID</td>
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<td></td>
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<tr>
<td>IL</td>
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<tr>
<td>IN</td>
<td>Exempt</td>
<td></td>
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<tr>
<td>KS</td>
<td>Exempt</td>
<td></td>
</tr>
<tr>
<td>KY</td>
<td>Authorized</td>
<td>Online programs only; Health Professions is authorized for clinical placements</td>
</tr>
<tr>
<td>LA</td>
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</tr>
<tr>
<td>MA</td>
<td>Exempt</td>
<td>Can offer online courses only</td>
</tr>
<tr>
<td>MD</td>
<td>Not authorized</td>
<td>UWL will not be seeking authorization in this state because it is cost prohibitive - cannot offer courses</td>
</tr>
<tr>
<td>ME</td>
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<td></td>
</tr>
</tbody>
</table>

**File a Complaint**

To file a complaint against the University of Wisconsin-La Crosse directly, students may learn about the UW System Complaint Process (http://www.uwlax.edu/finaid/UW-System-Complaint-Process) for resolving complaints and complete the form (https://www.wisconsin.edu/student-complaints/complaint-form) at the UW System website.
<table>
<thead>
<tr>
<th>State</th>
<th>Status</th>
<th>Notes</th>
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<td>Disclaimer: See below¹</td>
</tr>
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<td>MT</td>
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<tr>
<td>NC</td>
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<td>NY</td>
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<tr>
<td>OH</td>
<td>Exempt</td>
<td>Can offer on-line courses</td>
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<tr>
<td>OK</td>
<td>Exempt</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td>Authorized</td>
<td>Can offer on-line courses</td>
</tr>
<tr>
<td>PA</td>
<td>Authorized</td>
<td></td>
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<tr>
<td>RI</td>
<td>Exempt</td>
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<td>VT</td>
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<td>WA</td>
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<td>WY</td>
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</tbody>
</table>

¹ MINN. STAT. 136A.67: A school which is duly registered with the office, or any of its officials or employees may represent in advertisements and shall disclose in catalogues, applications, and enrollment materials that the school registered with the office by prominently displaying the following statement: "The University of Wisconsin – La Crosse is registered as a public institution with the Minnesota Office of Higher Education pursuant to Minnesota Statutes, sections 136A.61 to 136A.71. Registration is not an endorsement of the institution. Credits earned at the institution may not transfer to all other institutions."

² TEXAS DISCLAIMER: The University of Wisconsin-La Crosse is not regulated in Texas under Chapter 132 of the Texas Education Code, as it is located in the State of Wisconsin and authorized by Chapter 36 of the Wisconsin Statutes (http://docs.legis.wisconsin.gov/statutes/statutes/36) as well as accredited by the Higher Learning Commission (http://www.ncahlc.org/component/com_directory/Itemid/form_submitted,TRUE/institution,La%20crosse/showquery/,state,ANY/submit,Search).

### Administration and Board of Regents

**University of Wisconsin-La Crosse administration**

As of July 1, 2016:

**Office of the Chancellor**
- Chancellor - Joe Gow
- Director of Affirmative Action – Nizam Arain

**Division of Academic Affairs**
- Provost & Vice Chancellor, Academic Affairs – Betsy Morgan, Interim
- Associate Vice Chancellor, Academic Affairs – Sandy Grunwald, Interim
- Director of Murphy Library - Catherine Lavallée-Welch

**College of Business Administration**
- Dean – Laura Milner
- Associate Dean – Kenneth Rhee

**College of Liberal Studies/School of Arts and Communication**
- Dean – Julia Johnson
- Associate Dean – Charles Martin-Stanley
- Assistant Dean – Marie Moeller, Interim

**College of Science and Health**
- Dean – Mark Sandheinrich, Interim
- Associate Dean – Gubbi Sudhakaran, Interim
- Associate Dean – Roger Haro, Interim

**School of Education, Professional and Continuing Education**
- Dean – Marcie Wycoff-Horn

**Division of Student Affairs**
- Vice Chancellor, Student Affairs – Paula Knudson
- Associate Dean for Campus Climate & Diversity – Barbara Stewart

**Division of Administration and Finance**
- Vice Chancellor, Administration and Finance – Bob Hetzel
- Assistant Vice Chancellor, CIO – Mohamed Elhindi
- Assistant Vice Chancellor, Financial Services - Mark Reeves
- Exec. Director of Facilities Planning and Management - Doug Pearson
- Director of Human Resources - Madeline Holzem
- Director of Police Services - Scott McCullough
- Office of Internal Audit - Carol Christnovich

**Division of University Advancement**
- Vice Chancellor, University Advancement/UWL Foundation President - Greg Reichert
University of Wisconsin System Board of Regents

The University of Wisconsin-La Crosse is governed by the Board of Regents of the University of Wisconsin System. The Board of Regents as of July 2016:

- Regina Millner, Madison, President
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University of Wisconsin System administration

- Ray Cross, President
- Jim Henderson, Vice President, Academic and Student Affairs
- David Miller, Vice President, Administration and Fiscal Affairs

University Academic Calendar

The academic calendar is based on semesters. Semester I (September through mid-December) and Semester II (January through mid-May) each contains 14 weeks of instruction plus one week of final exams. The standard class period is 55 minutes. Numerous workshops and special courses are offered throughout the year and may meet in an abbreviated time frame. Grades can be posted after a course has ended; however, official grade point averages are updated at the end of the term only.

There are two additional terms, winter intersession and summer. Winter intersession provides an intensive three-week term in January. The summer term consists of three four-week sessions, beginning in late May and ending in mid-August. The university provides many courses ranging from general education offerings to specialized courses for majors. There also are undergraduate and graduate level certification and update courses for school professionals and others. Undergraduate degree seeking students are encouraged to use the summer session to work out irregularities in their programs, to add courses beyond minimum requirements and to make up deficiencies. Complete graduate programs are available for those who wish to attend in summers only. A select number of programs require year-round attendance.

Academic calendar for current year (http://www.uwlax.edu/Records/Dates-and-deadlines)
Graduate Program Directors

(Links below go directly to the program’s outside website.)

Office of University Graduate Studies

University Graduate Studies (http://www.uwlax.edu/graduate-studies)
Director: Steve Simpson
223 Graff Main Hall
608.785.8124
gradstudies@uwlax.edu

College of Business Administration

Master of Business Administration (MBA)

Master of Business Administration (http://www.uwlax.edu/CBA/Graduate-Program-MBA-Program)
Director: Mark Huesmann (mhuesmann@uwlax.edu)
339H Wimberly Hall
608.785.5292

College of Liberal Studies

Doctor of Education (EdD)

Student Affairs Administration and Leadership (http://www.uwlax.edu/Student-Affairs-Admin)
Director: Jodie Rindt (jrndt@uwlax.edu)
345 Morris Hall
608.785.6869

Master of Science in Education (MSED)

Student Affairs Administration-Higher Education
Director: Jodie Rindt (jrndt@uwlax.edu)
345 Morris Hall
608.785.6869

Master of Science in Education (MSED) Education Specialist (EdS)

School Psychology
Director: Robert Dixon (rdixon@uwlax.edu)
349A Graff Main Hall
608.785.6893

School of Education, Professional and Continuing Education

Master of Science in Education (MSED)

Reading - MSED with non certification
Reading - MSED with Reading Teacher (1316) certification
Reading - MSED with Reading Teacher (1316) and Reading Specialist (5017) certification
Reading Teacher (1316) add-on certification
Interim Director: Adrienne Loh (aloh@uwlax.edu)
335B Morris Hall
608.785.8275

Master of Education-Professional Development (ME-PD)

Master of Education - Professional Development Off-Campus Learning Community (ME-PD)
Educational Leadership Certificate
English Language Arts Elementary Certificate
Professional Learning Community Certificate
Director of Institute for Professional Studies in Education (IPSE): Pat Markos (pmarkos@uwlax.edu)
267 Morris Hall
608.785.5087

College of Science and Health

Doctor of Physical Therapy (DPT)

Physical Therapy (http://www.uwlax.edu/physical-therapy-dpt)
Director: Michelle Thorman (mthorman@uwlax.edu)
4063 Health Science Center
608.785.8466

Master of Science (MS)

Biology
Biology - Aquatic Science
Biology - Cellular & Molecular
Biology - Nurse Anesthetist
Biology - Physiology
Director: Anita Baines (abaines@uwlax.edu)
4032 Cowley Hall
608.785.8239

Biology - Clinical Microbiology
Biology - Microbiology
Director: Michael Hoffman (mhoffman@uwlax.edu)
3023 Cowley Hall
608.785.6984

Clinical Exercise Physiology
Director: John Porcari (jporcari@uwlax.edu)
141 Mitchell Hall
608.785.8684

Community Health Education
Director: Gary Gilmore (ggilmore@uwlax.edu)
201 Mitchell Hall
608.785.8163

Data Science
Director: Jeffrey Baggett (jbaggett@uwlax.edu)
1026 Cowley Hall
608.785.8393

Exercise and Sport Science - Human Performance
Director: Glenn Wright (gwright@uwlax.edu)
137 Mitchell Hall
608.785.8689

Exercise and Sport Science - Physical Education Teaching Program
Director: Jooyeon Jin (jjin@uwlax.edu)
161 Mitchell Hall
608.785.8182

Exercise and Sport Science - Physical Education Teaching: Adapted Physical Education Emphasis
Director: Garth Tymeson (gtymeson@uwlax.edu)
Graduate Program Directors

131 Mitchell Hall
608.785.5415

Exercise and Sport Science - Physical Education Teaching: Adventure/Outdoor Pursuits Emphasis
Matthew Maurer (mmaurer@uwlax.edu)
219 Mitchell Hall
608.785.6535

Medical Dosimetry
Director: Nishele Lenards (nlenards@uwlax.edu)
4033 Health Science Center
608.785.6622

Microbiology (https://www.uwlax.edu/microbiology-ms)
Microbiology - Clinical Microbiology (https://www.uwlax.edu/clinical-microbiology-ms)
Director: Michael Hoffman (mhoffman@uwlax.edu)
3023 Cowley Hall
608.785.6984

Occupational Therapy
Director: Peggy Denton (pdenton@uwlax.edu)
4049 Health Science Center
608.785.8303

Physician Assistant Studies
Director: Sandra Sieck (ssieck@uwlax.edu)
4050 Health Science Center
608.785.6621

Recreation Management (http://www.uwlax.edu/recreation-management-ms)
Therapeutic Recreation (http://www.uwlax.edu/therapeutic-recreation-ms)
Director: Kate Evans (kevans@uwlax.edu)
2042 Health Science Center
608.785.8210

School Health Education
Director: Lori Reichel (lreichel@uwlax.edu)
200 Mitchell Hall
608.785.6787

Master of Public Health (MPH)
Master of Public Health in Community Health Education (http://www.uwlax.edu/community-health-education/#qt-2)
Director: Gary Gilmore (ggilmore@uwlax.edu)
201 Mitchell Hall
608.785.8163

Master of Software Engineering (MSE)
Software Engineering (http://www.cs.uwlax.edu/index.php/graduate-program)
Director: Kasilingam Periyasamy (kperiyasamy@uwlax.edu)
222 Wing Technology
608.785.6823
Admissions - Graduate

- Graduate admissions (p. 13)
- Admission on probation (p. 13)
- Conditional admission (p. 13)
- International student admissions (p. 13)
- Special non-degree graduate students (p. 14)
- Graduate students admitted with academic course deficiencies (p. 14)
- Graduate re-entry (p. 14)

Graduate admissions

Students seeking admission to graduate study must apply electronically by completing the UW System application (https://apply.wisconsin.edu).

In accordance with the University of Wisconsin System policies, graduate students applying to a graduate degree program must submit an application fee. The application fee is non-refundable, does not apply to graduate tuition, and cannot be waived. If enrollment is delayed, the application fee can be applied to the next two consecutive terms including summer session.

It is the student’s responsibility to make arrangements for official transcripts of previously established academic records (undergraduate and graduate) bearing the official seal of the institution(s) where course work was taken to be sent directly from the registrar of each institution to the UW-La Crosse Admissions Office. UW-La Crosse accepts transcripts sent directly from the issuing institution(s) or through an electronic secure document sending service. Application fees and transcripts can be sent to:

Graduate Admissions Office
142 Cleary Center
University of Wisconsin-La Crosse
1725 State Street
La Crosse, WI 54601
admissions@uwlax.edu

Admission consideration to graduate study will be given to students who meet the following requirements:

- A baccalaureate degree from an accredited institution.
- An overall undergraduate grade point average of at least 2.85 on a 4.00 scale, an average of at least 3.00 in the last half of all undergraduate work, or an average of at least 3.00 for no less than 12 semester credits of graduate study at another accredited graduate school. Some programs have higher grade point average admission requirements.
- Departmental or school/college admission to enter the graduate program. Many graduate programs require additional supplemental application materials. Please refer to the website of the specific program for details.
- Satisfactory scores in all tests required by the program, department, or college. Please refer to the program website for test requirements.

For more information, including a list of graduate program websites, please visit the Office of University Graduate Studies (http://www.uwlax.edu/graduate-studies). For questions about admission to the university, contact the Admissions Office (http://www.uwlax.edu/Admissions).

Admission on probation

Students may be admitted on probation if they do not meet the minimum academic or graduate program admission requirements. Upon completion of nine graduate credits or two terms (whichever comes first) with a grade point average of 3.00 or above, the student will be removed from probation. Students admitted on probation will be dismissed from graduate study if their cumulative GPA is below 3.00 after completing nine graduate credits or two terms (whichever comes first).

Conditional admission

Students may be conditionally admitted to a graduate program while they are in the process of completing their undergraduate degree. Final admission is contingent upon maintaining their cumulative grade point average and submission of an official final college transcript from the college they are attending showing the conferment of their degree. The final official transcript is due 15 days after the degree is posted.

International student admissions

International applicants seeking graduate admission to UWL should follow the instructions below.

Application: Complete the UW System online application (https://apply.wisconsin.edu) for graduate study and pay the graduate application fee.

Academic records: Official copies of academic records from all post-secondary institutions attended are required, even if the program was not completed. Documents issued in languages other than English must be accompanied by literal English translations.

- Course-by-course evaluation: For all post-secondary education taken outside of the United States, an official WES (http://www.wes.org) or ECE (http://www.ece.org) course-by-course evaluation is required.

Proof of English language proficiency: Applicants for graduate study who are not native speakers of English must meet one of the following for admission:

- Official TOEFL score of at least 79 iBT or 550 pBT - Institution Code: 1914.
- Official IELTS score of at least 6.0.
- A bachelor’s or higher degree from UWL or another approved institution where English is the sole language of instruction may also fulfill this requirement.
  - Degree must be earned within two years of expected enrollment at UWL.
  - Applicant must have attended the institution for a minimum of two years.

TOEFL and IELTS scores cannot be more than two years old.

Program specific requirements: Many graduate programs require additional application materials. Applicant should contact the graduate program directly about additional requirements.

Proof of funding: Bank statement and signed affidavit of support. Funding must be equal or greater than International Education & Engagement’s estimated costs (http://www.uwlax.edu/International-Education/Tuition-and-expenses) for one year (two semesters) of graduate study. Students who require F-2 visas for dependents (spouse
and/or children) must submit additional proof of funding and passport copies for each dependent.

**Passport copies:** Submit a photocopy of the biographical data in the applicant’s passport. If the applicant is admitted to a program, this will ensure that immigration documents are issued accurately.

**Application materials can be sent to:**
Admissions Office
143 Cleary Center
University of Wisconsin-La Crosse
1725 State Street
La Crosse, WI 54601
USA

For more information on international student admissions, visit the Admissions Office (http://www.uwlax.edu/Admissions/International-student).

**Special non-degree graduate students**

Students with a bachelor’s degree seeking to enroll in graduate courses for which they are qualified but not wishing to pursue a graduate degree may be admitted with special non-degree graduate student status. Special non-degree graduate students either may receive academic credit for courses successfully completed or may choose to audit. Auditors usually are not responsible for attendance or exams and therefore do not receive academic credit or grades for completed courses.

To apply for special non-degree graduate admission, complete the appropriate UW System application (https://apply.wisconsin.edu). Application fees and transcripts are not required. Students admitted as special non-degree graduate students register for classes after graduate degree seeking students and are not eligible for financial aid.

If special non-degree graduate students seek admission to a degree program at a later date, they must complete and submit a new application as a degree-seeking student. They may be considered for admission provided they have maintained a "B" average in graduate work and have met all other program requirements. No more than 12 credits earned as a special non-degree graduate student may be applied toward a degree program at the University of Wisconsin-La Crosse. Further, deans and/or program directors/ coordinators may accept or reject credit taken as a graduate special non-degree student.

**Graduate students admitted with academic course deficiencies**

Students with course deficiencies, who have been provisionally admitted to a graduate program, may be classified with the appropriate special student designation and, at such time as the deficiencies are removed, may be admitted to the graduate program with the appropriate graduate classification. Such students would be exempt from the "12 credits as a special student" restriction policy statement.

**Graduate re-entry**

If students voluntarily interrupt university enrollment for one semester or longer (excluding summer) while in good academic standing, re-entry status may be granted by applying to the graduate program director, through the Office of Records and Registration. Applications should be made as early as possible but not later than one month prior to the beginning of the planned term of re-enrollment. Applications will be accepted until the enrollment limits have been reached.
Graduate Assistantships

The University of Wisconsin-La Crosse offers a variety of graduate assistantships. Graduate assistantships include teaching (TA), research (RA), and program (PA) assistantships. Graduate assistantships are awarded by the academic program/department. Only students who are admitted and remain in good academic standing are eligible for a graduate assistantship. The student must be enrolled at UWL for credit or GRC 799 to be eligible. Graduate assistantships are awarded on a very competitive basis according to individual department/program criteria. Students may be awarded a graduate assistantship for no more than four semesters and two summers. Requests for exceptions to this policy should be submitted to the dean of the college in which the graduate program resides.

To apply, the graduate student communicates directly with the department of intended degree work. The Financial Aid Office does not administer the graduate assistantship program.

Assistantships are available to resident and nonresident students. Tuition and fees are not waived for graduate assistants although the out-of-state portion of tuition may be waived in some cases. Awards may be made for assistantships which require 14 to 20 hours of responsibilities per week during each semester of the academic year. Those with 14-hour assignments may carry up to 14 hours of graduate credit and those with 20-hour assignments should not exceed 12 graduate credits each semester. Summer assistantships may be available.

UWL complies with the Council of Graduate Schools’ Resolution Regarding Graduate Scholars, Fellows, Trainees, and Assistants which follows:

"Acceptance of an offer of financial support (such as graduate scholarship, fellowship, traineeship, or assistantship) for the next academic year by a prospective or enrolled graduate student completes an agreement that both student and graduate school expect to honor in that context. The conditions affecting such offers and their acceptance must be defined carefully and understood by all parties. Students are under no obligation to respond to offers of financial support prior to April 15; earlier deadlines for acceptance of such offers violate the intent of this Resolution. [UW-L notation: this deadline assumes a program begins in fall semester. Programs beginning earlier may have an earlier acceptance date.] In those instances in which a student accepts an offer before April 15, and subsequently desires to withdraw that acceptance, the student may submit in writing a resignation of the appointment at any time through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another offer without first obtaining a written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on presentation by the student of the written release from any previously accepted offer. It is further agreed by the institutions and organization subscribing to the above Resolution that a copy of this Resolution should accompany every scholarship, fellowship, traineeship, and assistantship offer."

Additional related information

Financial Aid: Graduate financial aid is awarded based on university enrollment status of degree seeking student. Students must be enrolled in at least five credits within a single semester or five credits during the summer to be eligible for financial aid. Students must be enrolled in at least nine credits within a single semester or nine credits during the summer to be considered full-time. Credits must be applicable to the student’s declared degree program. Financial aid is reduced accordingly for students enrolled less than full-time, but at least half-time (five credits).

International Students: Both F-1 and J-1 student visa regulations require students to be enrolled full-time each fall and spring semester. Unless otherwise obligated by the requirements of their program or special circumstances as already described, full-time enrollment is defined as no less than nine graduate-level credits during the fall and spring semesters. Summer enrollment is not required by the U.S. federal government regulations for F-1/J-1 visa holders. However, summer enrollment may be required due to other circumstances. (See summer enrollment requirements for capstone continuation, graduate assistantships, and program progress.) Failure to maintain full-time status can result in loss of F-1/J-1 student benefits. Any exceptions to full-time enrollment must be authorized by International Education & Engagement (IEE). Permission by IEE to drop below full-time enrollment does NOT exempt an international student from meeting the enrollment requirement for assistantships.
Continuing Education and Extension (CEE)

Director: Penny Tiedt
205 Morris Hall
608.785.6500 or 866.895.9233
Email: conted@uwlox.edu

www.uwlax.edu/conted

Continuing Education and Extension (CEE) works with faculty and departments to extend the instructional, research, and public service resources of UWL to individuals and organizations in western Wisconsin communities and in other parts of the state. Some programs attract national and international audiences.

Graduate and undergraduate credit courses are offered off campus for part-time students, primarily K-12 educators, and health and human service professionals. Collaborative, online bachelor’s and master’s degree completion programs are also offered.

Conferences, workshops and other non-credit instructional programs are conducted for selected professional audiences, as well as the general public. A non-credit certificate program is offered in autism spectrum disorders. Learning in Retirement programs are offered specifically for older adults. Continuing education units (CE units) or health education continuing education contact hours (CECHs) are awarded when appropriate.

Science, humanities, and arts enrichment classes also are offered for upper elementary, middle, and high school students. Test preparation courses are also offered for the ACT, GRE, GMAT, and LSAT.

Credit outreach courses and most non-credit instructional programs are offered in partnership with UW-Extension. Distance learning technologies are used for selected audiences.

CEE staff work with faculty and off-campus individuals to host conferences and annual meetings of professional associations and other organizations.

Degree program

Online collaborative graduate degree program:

- Data Science - Master of Science
  - Collaboration includes: University of Wisconsin-Extension, UW-Eau Claire, UW-Green Bay, UW-La Crosse, UW-Oshkosh, UW-Stevens Point, and UW-Superior
  - Master of Data Science collaborative program (http://datasciencedegree.wisconsin.edu)
  - UW-La Crosse curriculum (p. 82)
Expenses, Financial Aid, & Scholarships - Graduate

Paying for tuition is a significant concern for most students, and the university continually strives to provide options for those who may be struggling or who have questions. The following offices or groups are available to help students overcome the challenge of paying for college.

(Links in following list go to the office’s outside webpage. Links in last paragraph go to the topic’s catalog page.)

- Financial Aid Office (http://www.uwlax.edu/finaid)
- UWL Foundation (http://www.uwfoundation.org)
- It Make$ Cents! (http://www.uwlax.edu/It-Makes-Cents/IMC!-Home)
- Veterans Educational Benefits Office (http://www.uwlax.edu/veteran-services)
- Cashier's Office (http://www.uwlax.edu/cashiers)

The University of Wisconsin-La Crosse offers a wide array of merit-based, need-based, and non-need based financial assistance for graduate students. The Financial Aid Office is the best resource for most of this information, but the Expenses (p. 17), Financial aid & scholarships (p. 17), and Veteran benefits (p. 18) sections also offer graduate students a brief look at financial options and further resources.

Expenses - Graduate

Expenses and Financial Aid

Graduate program students may be required to pay a non-refundable enrollment deposit to hold their place. Contact the specific program for requirements.

All students are charged a non-refundable registration fee each term they register for one or more courses. If a student drops all classes before the term begins, the student is still responsible for this fee.

For more information on graduate tuition and fee information, visit the Cashier’s Office (http://www.uwlax.edu/cashiers).

Textbooks

Graduate students are required to purchase textbooks for all courses they are enrolled in (including slash courses). Graduate students are not eligible to use Textbook Rental Services.

Graduate student textbooks may be purchased (based on availability) through the University Bookstore. For more details and to review the textbook policies/procedures, visit the UWL Bookstore (http://www.uwlax.edu/bookstore).

Financial Aid & Scholarships - Graduate

- Eligibility requirements (p. 17)
- Application procedures (p. 17)
- Notification dates (p. 17)
- Financial aid programs (p. 18)

- Satisfactory academic progress standard (p. 18)
- Short term loans (p. 18)
- Scholarships and awards (p. 18)
- Further resources (p. 18)

Eligibility requirements

Need-Based Aid: Many financial aid programs are based on financial need as demonstrated by the application of a federal need-analysis formula to the student financial information provided on the Free Application for Federal Student Aid (FAFSA). Need-based programs include Federal Perkins Loans, Advanced Opportunity Program, Non-Resident Tuition Waivers, and Native American Indian Grants.

Non-Need-Based Aid: Exceptions to the financial need requirement include Federal Direct Unsubsidized Loans, Federal Direct Graduate PLUS Loans, and alternative private bank loans for higher education. For more information, visit the Financial Aid Office (http://www.uwlax.edu/finaid).

Merit-Based Aid: Graduate assistantships are merit-based and do not require the demonstration of financial need. Graduate scholarships are also merit-based and in most cases do not require financial need. International student scholarships are merit-based and subject to a special need analysis administered by the Office of International Education.

Academic Requirements: Admission to the university is a prerequisite to consideration for financial aid. Special non-degree students are not eligible for aid unless they are working for a qualifying, approved teacher certification or certificate. Add-on teaching certifications are not eligible for federal aid. Students must demonstrate satisfactory academic progress in order to receive aid. Full-time status is required for many programs; less-than-half-time status will disqualify the student from all programs. For graduate students, nine credits is considered full-time and five credits is considered half-time for the fall, spring and summer sessions.

Other Federal and State Requirements: These include proper citizenship status, registration with the Selective Service System, and not being in default on any federal student loan. See the withdrawal from the university (p. 27) policy for additional requirements. Awards are subject to change at any time pursuant to changes in state or federal funding levels or regulatory mandates.

Graduate Credit Load Requirements

Graduate financial aid is awarded based on university enrollment status of degree seeking student. Students must be enrolled in at least five credits within a single semester or five credits during the summer to be eligible for financial aid. Students must be enrolled in at least nine credits within a single semester or nine credits during the summer to be considered full-time. Credits must be applicable to the student’s declared degree program. Financial aid is reduced accordingly for students enrolled less than full-time, but at least half-time (five credits).

Application procedures

Financial aid applicants must submit the Free Application for Federal Student Aid (https://fafsa.ed.gov) (FAFSA) to the Federal Central Processing System. Applications are accepted throughout the academic year. File the FAFSA by March 15 for priority consideration.

Notification dates

New students who complete their application by the March 15 priority date can expect to receive a financial aid offer between April 15 and
June 30. Students who complete this application after March 15 will receive a financial aid offer as soon as possible after June 30. Applications received after July 1 may not be processed in time for students to receive their aid by the start of the fall semester. These students should be prepared to pay their initial expenses from their own resources.

Financial aid programs
Information concerning the various types of financial aid is available underneath “Graduate & professional students” in the Financial Aid Office (http://www.uwlax.edu/finaid).

Satisfactory academic progress standard
Information regarding UWL’s satisfactory academic progress policy (http://www.uwlax.edu/finaid/Understand-SAP) is available in the Financial Aid Office.

Short term loans
The university also administers a short term loan program which provides for interest-free, short term emergency loans to students in need, provided they are enrolled for a full credit load of non-repeat courses. The Financial Aid Office (http://www.uwlax.edu/finaid), 215 Graff Main Hall, has more information and application forms.

Scholarships and awards
Many scholarships (http://www.uwlax.edu/Scholarships/Foundation-Scholarships) and awards have been established by alumni, faculty and staff, parents, students, businesses, and organizations. Recipients are selected by scholarship committees on the basis of an application, grade point average, and other materials as deemed appropriate by departmental committees. Scholarships are presented to students whose qualifications best fit the stipulations of the donor. Approximately one-half million dollars is awarded each year. Amounts vary annually based on funding from gifts or investment earnings available from a fund.

Almost all scholarships are contingent upon full-time enrollment both fall and spring semesters at UW-L. Scholarships and awards are usually disbursed in two payments for the academic year, the first half in the fall semester and the other half in the spring semester.

A scholarship application is also available to currently enrolled students at the UWL Foundation Office (http://www.uwlfoundation.org), Cleary Alumni and Friends Center. This application covers all scholarships unless otherwise stated. Some require specific applications. All applications (unless otherwise indicated) must be submitted to the UWL Foundation Office. Applications are submitted to various offices that offer scholarships based on academic majors. The deadline for scholarship applications is March 1 each year, unless otherwise indicated. Scholarships and awards are announced at the scholarship reception set for the last Monday in April. For more information, call the Advancement Office at 608.785.8489.

Veteran Benefits
The university is fully approved for the education of veterans and veterans’ dependents under both federal and state programs. New students who qualify for benefits should report to the Veterans Educational Benefits Coordinator (http://www.uwlax.edu/veteran-services) in the Office of Records and Registration, 116 Graff Main Hall, after class registration. After this initial contact, registered students should keep the benefits coordinator apprised of their status and needs each semester.

To receive support from veteran programs, after registering for classes each semester, a student is required to report to the Veterans Benefits Coordinator to complete a certification request form (http://www.uwlax.edu/Veteran-Services/Certification-request). The university certifies attendance and credit load to the Veterans Administration based on the certification request.

Payments of veterans’ benefits depend on the number of credits carried. Graduate students should carry at least nine credits during the semester to receive full benefits under most programs. Payment will be awarded according to the schedule below. Contact the Veterans Benefits Coordinator for summer term rules.

Table to determine % of benefits

<table>
<thead>
<tr>
<th>Graduate credits</th>
<th>Enrollment/benefits status</th>
</tr>
</thead>
<tbody>
<tr>
<td>9+</td>
<td>Full-time</td>
</tr>
<tr>
<td>7-8</td>
<td>3/4 time</td>
</tr>
<tr>
<td>5-6</td>
<td>1/2 time</td>
</tr>
</tbody>
</table>

More information can be found in the Veterans Educational Benefits Office (http://www.uwlax.edu/veteran-services) and the Office of Records and Registration (http://www.uwlax.edu/Records/Veteran-students).

Further resources
- For more information regarding student financial aid programs, visit the Financial Aid Office (http://www.uwlax.edu/finaid) (215 Graff Main Hall) or contact Financial Aid at 608.785.8604 or finaid@uwlex.edu.
- For more information about graduate scholarships, visit the UWL Foundation (http://www.uwlfoundation.org) (Cleary Alumni and Friends Center) or contact the Foundation at 608.785.8489 or foundation@uwlex.edu.
- For more information about graduate assistantships, contact (p. 11) the Director of Graduate Studies or the graduate program director.
Academic Policies - Graduate

Academic policies define what the institution expects from the students and what students may expect from the institution in terms of academic behavior. Graduate academic policies are developed and approved through the university's governance system by the Graduate Council. Graduate Council membership includes representation from both faculty and students.

Below is a guide to help navigate through the graduate academic policies.

Academic Eligibility
- Graduate probation and retention standards (p. 19)
- Readmission to a program after dismissal (p. 20)
- Appeals process for graduate students not re-admitted by graduate programs (p. 20)
- The Graduate Council (p. 20)

Academic Records/FERPA
- Access to academic records (p. 21)
- Name and address changes (p. 21)
- Federal Educational Rights and Privacy Act (FERPA) (p. 21)

Course Information
- Graduate course repeat (p. 21)
- Cross-listed courses (p. 21)
- Course numbering (p. 21)
- Course prerequisites (p. 21)
- Curriculum requirements and course descriptions (p. )
- Graduate Curriculum Committee (p. 21)

Grading System and Policies
- University grading system (p. 22)
- Pass/fail policy (p. )
- Final exams (p. 23)
- Incomplete (I) grade (p. )
- In progress (PR) grade (p. 23)
- Change of final grade (p. 23)
- Appeal of final grade (p. 23)
- Report of final grades (p. 24)

Graduation
- Graduate level graduation fee (p. 24)
- Applying for graduation (p. 24)
- Graduate commencement participation (p. 24)
- Graduate level honors (p. 24)
- Mailing diplomas (p. 24)

Registration and Scheduling
- Academic advising (p. 24)
- Registration process (p. 24)

- Schedule changes after semester begins (p. 24) (drop/add/ change of schedule policy)
- Class drops at an instructor's discretion (p. 25)
- Class drops after the change of schedule period: see the individual course withdrawal policy (p. ) in the university's withdrawal policies.
- Student credit load (p. 25)
- Student credit load - international graduate students (p. 25)
- Class attendance (p. 25)
- Audit policy (p. 25)
- Undergraduate enrollment in graduate courses (p. 25)
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Academic Eligibility - Graduate
- Graduate probation and retention standards policy (p. 19)
- Readmission to a program after dismissal policy (p. 20)
- Appeals process for graduate students not re-admitted by graduate programs policy (p. 20)
- The Graduate Council (p. 20)

Graduate probation and retention standards
All graduate students, including those in non-degree study, are expected to meet and maintain the academic standards below.

Good standing
1. Students admitted unconditionally who maintain at least a 3.00 cumulative GPA will be in good standing.
2. Students admitted on probation who achieve and maintain at least a 3.00 cumulative GPA upon completion of nine graduate credits will be in good standing.
3. Students who have been on probation and subsequently achieve and maintain at least a 3.00 cumulative GPA will be returned to good standing.
4. Programs may have more prescriptive policies including requirements for appropriate professional or clinical conduct, for sufficiency in professional skills, or other requirements that must be clearly documented in their program guidelines and provided to students upon admission. For a list of programs with such policies students are encouraged to consult the Office of Graduate Studies.
**Probation**

1. Students admitted unconditionally who have a cumulative GPA less than 3.00 upon completion of nine graduate credits, or any time after, will be placed on probation. Such students must raise their cumulative GPA to at least 3.00 within the next nine credits or two terms (whichever comes first) in order to continue in graduate study.

2. Students admitted on probation must have at least a 3.00 cumulative GPA after completing nine graduate credits in order to continue in graduate study.

3. Students who have been on probation and subsequently removed from probation will be returned to probationary status if their cumulative GPA falls below 3.00. Such students must raise their cumulative GPA to at least 3.00 within the next nine credits or two terms (whichever comes first) in order to continue in graduate study.

4. Programs may have more prescriptive policies and other conditions that could trigger probation (see #4 under "Good Standing" above).

**Dismissal**

1. Students admitted unconditionally, who subsequently were placed on probation, will be dismissed from graduate study if their cumulative GPA is below 3.00 after completing nine graduate credits or two terms (whichever comes first) while on probation.

2. Students admitted on probation will be dismissed from graduate study if their cumulative GPA is below 3.00 after completing nine graduate credits.

3. Students will be dismissed from graduate study if their semester GPA is less than 3.00 at any time while on probation after completing the initial nine credits.

4. Students who earn a "D" or "F" in a graduate course will be dismissed from graduate study.

5. Programs may have more prescriptive policies and other conditions that could trigger dismissal (see #4 under "Good Standing" above).

1. Graduate credits are defined as course credit offered at the 500-level or above, or any course accepted as part of the requirements for a graduate degree.

**Readmission to a program after dismissal**

A student who has been dismissed from their graduate program may request readmission by making an appeal to his or her graduate program. The student should also consult with his/her program director and/or the Office of the University Graduate Studies for advice and help with how to proceed.

If the student’s program finds compelling evidence to warrant an exception to the policy, one can be granted upon written notification to the Office of University Graduate Studies, the office of the dean of the college that houses the program, and to the Office of Records and Registration. Students granted an exception are readmitted to the graduate program, though readmission can result in a student being placed on probation.

If the program is unwilling to support readmission, the student should again consult the Office of University Graduate Studies to discuss the possibilities for any further action.

**Appeals process for graduate students not re-admitted by graduate programs**

1. The decision of a graduate program on readmission of a student that has been dismissed is considered to be final.

2. If a student feels that their graduate program did not follow its written procedures in not supporting his or her request for readmission, that student may appeal to Graduate Council for a hearing on due process.

   a. The Graduate Council will only consider due process appeals (i.e., cases where a graduate program is thought to have acted contrary to its written procedures), and does not consider any other evidence for exceptions to the dismissal policies of a graduate program.

   b. For the purposes of due process appeal, a graduate program is assumed to use the standards of the graduate catalog for probation or dismissal, unless the program has additional prescriptive policies documented in their program guidelines, bylaws, or other equivalent documents that supersede those of the catalog. Such documents should be available to students in the program and on-file in the office of the dean of the college for that graduate program, and provided to the Graduate Council prior to any due process appeal.

   c. If the Graduate Council finds that a program’s decision was inconsistent with that program’s written procedures, then the program must reconsider the request for readmission and base a new decision on the program’s written procedures.

   d. If the program’s decision is deemed by Graduate Council to be consistent with written procedures, then that program’s decision remains final.

3. Students who have been dismissed from a graduate program can apply to the Office of Graduate Studies for "special non-degree status" or seek admission to another graduate program. However, being accepted to special non-degree status or to another graduate program after dismissal is rare and should not be expected.

4. Students who are not accepted for special non-degree status or accepted to another program are dismissed from the university.

**The Graduate Council**

**Duties and responsibilities of the committee shall include:**

1. Establishing, in consultation with departments and/or colleges, academic standards pertaining to graduate study, including policies for graduate student admission, honors recognition, retention, probation, dismissal, and readmission.

2. Determining the procedures and criteria for selecting members of the graduate faculty and annually approving an updated roster of members of the graduate faculty.

3. Formulating procedures for hearing graduate student appeals and petitions on academic policy matters not resolved by administrative offices of the university.

4. Studying long-range issues related to any aspect of graduate studies and recommending how and by whom these issues should be addressed.

Membership of the committee shall consist of nine graduate faculty. The faculty membership shall include at least one representative from each of the College of Science and Health, the College of Business Administration, and the College of Liberal Studies. At least one representative from each college shall be either a graduate program director or a member of a department participating in a graduate program. In addition, the Chair of the Graduate Curriculum Committee, and two graduate students shall serve as members. The academic deans or their designated appointees, the Associate Vice Chancellor for Academic Affairs, and the Registrar shall serve as administrative consultants to the committee. The committee shall elect its chairperson.
The Graduate Council also has oversight for the following policies:

- Time limit for degree completion.
- Program exceptions for English proficiency requirements.
- Requirements for graduate assistantships.
- Graduate probation and retention. (Graduate Council hears as a due process appeal.)
- Continuous registration.
- Medical withdrawal from courses/university.

Academic Records/FERPA

Access to academic records

Academic records are confidential between the student and the university. Students may request transcripts of their permanent academic records at any time, provided they are not financially encumbered to the university. Transcripts may be requested in person, online, or by writing to the Office of Records and Registration. There is a fee for official transcripts. Transcripts will not be released without the student's authorizing signature. Under no circumstances will partial transcripts be issued.

Name and address changes

It is the student's responsibility to keep appropriate offices advised of changes. Campus (local) or permanent home (legal) addresses may be changed through a student's WINGS Student Center. Official name changes must be done in the Office of Records and Registration, 117 Graff Main Hall, with proper identification.

FERPA

For details, review the university's policy and implementation of the Family Education Rights and Privacy Act (FERPA).

Course Information - Graduate

- Graduate course repeat policy (p. 21)
- Cross-listed courses policy (p. 21)
- Course numbering policy (p. 21)
- Course prerequisites (p. 21)
- Curriculum requirements (p. )
- Graduate Curriculum Committee (p. 21)

Courses listed in this catalog are subject to change through normal academic procedures. New programs/courses and changes in existing course work are initiated by departments or individual programs and approved by the appropriate academic dean, the Graduate Curriculum Committee, and the Faculty Senate. Additions to the curriculum for the ensuing years are published in the official Graduate Curriculum Committee minutes and are on file with the Office of Records and Registration.

Many course descriptions list the semester/year during which a course is normally offered. This serves as a guide; however, actual offerings may vary depending on staffing levels and enrollment demands.

A course marked "repeatable for credit" may be repeated for credit only once unless otherwise specified. See the graduate course repeat policy (p. 21) for information on repeating a course to improve one's grade.

Graduate course repeat policy

A graduate student can repeat up to two courses once in which a grade of "C" or lower was earned and with the permission of the program director. The new grade will replace the original grade in the GPA calculation. Both grades will appear on the academic record.

Cross-listed courses

A course offered by more than one department that has the same course description, credits, and title but different prefixes (e.g., ECO/THA 376; BIO/MIC 714) is a cross-listed course. Students may earn credit only once for taking a cross-listed course.

Graduate course numbering policy

Courses in the 500 series and some in the 600 series are "slash" courses; they are graduate courses with a companion number in the 300 or 400 series and are open to upper level undergraduates who have earned at least 60 credits and graduate students. All courses with numbers in the 700 and 800 series, and some in the 600 series, are for graduate students only.

Students in all master's degree programs must earn at least one-half of the minimum number of semester credits required in their program in graduate-only level courses.

Course prerequisites

Course prerequisites, listed in the course description, indicate the academic preparation required for successful completion of the course. Occasionally students may have sufficient knowledge to enter courses without the formal prerequisites. In these circumstances, students may ask instructors for consent to enroll; all instructors retain the right to admit any student to their classes, subject to departmental policy. Students who do not meet the stated prerequisite(s) or the required class standing must obtain permission to enroll in a class. Students will not receive credit for courses for which they do not have the appropriate class standing, specified prerequisites, or permission to override the requirements.

Curriculum requirements

Specific course requirements (curriculum) for the various programs are included with each individual program's description, under the graduate degrees & program requirements section in the catalog. Additional university requirements for a graduate degree are included in the university's graduate degree requirements policy.

Graduate Curriculum Committee

The Graduate Curriculum Committee (UCC) is the curriculum review faculty body for all academic programs at the graduate level. Membership of this committee consists of nine faculty, with proportional representation by college, and three students. The Provost, Registrar, Director of University Graduate Studies, Director of the Library, and the dean of each college serve as administrative consultants.
A full copy of the GCC by-laws (http://www.uwlax.edu/facultysenate/ABP/bylaws.html#L_The_Graduate_Curriculum_Committee) is on the Faculty Senate website.

### Grading System and Policies - Graduate

- University grading system (p. 22)
- Pass/fail policy (p.  )
- Final exams policy (p. 23)
- Incomplete (I) grade policy (p.  )
- In progress (PR) grade policy (p. 23)
- Appeal of final grade policy (p. 23)
- Report of final grades policy (p. 24)

#### University grading system

Scholastic standing is determined by the grade point system. Grade points are used to determine an official scholastic average for each student. A semester grade point average is calculated by dividing the grade points earned by the number of credits attempted that semester. The cumulative average is the total number of grade points earned divided by the total number of credits attempted.

Undergraduates must maintain an average of 2.00 as the minimum standard for satisfactory work after attempting 45 credits. See the retention standards (http://catalog.uwlax.edu/undergraduate/academicpolicies/academiceligibility/#retention-standards) policy for more information about academic eligibility.

To successfully complete a course at the graduate level, a grade of "C" (or better) or "P" must be earned. No graduate credit will be applicable to a degree for courses completed with grades below "C".

**Note:** UWL grade point averages are determined only by grades in UWL courses. Probationary status and grade point deficiencies of students already matriculated at UWL may not be improved by enrolling in courses at other institutions.

#### Grading scale

Effective January 1994, the university adopted a seven-step grading scale with point values assigned as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Points per Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>AB</td>
<td>3.50</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>BC</td>
<td>2.50</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Additional university grades and grade points used but not part of the grading scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Points per Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>incomplete / 0 (not counted as credits attempted)</td>
</tr>
<tr>
<td>IP</td>
<td>in progress / 0 (not counted as credits attempted)</td>
</tr>
<tr>
<td>W, WP</td>
<td>withdraw passing / 0 (not counted as credits attempted)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Points per Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>WF</td>
<td>withdraw failing / 0 (counted as credits attempted, averaged into GPA)</td>
</tr>
<tr>
<td>EP¹</td>
<td>emergency withdrawal / passing / 0 (not counted as credits attempted)</td>
</tr>
<tr>
<td>EF¹</td>
<td>emergency withdrawal / failing / 0 (not counted as credits attempted)</td>
</tr>
<tr>
<td>AS</td>
<td>audit satisfactory / 0 (not counted as credits attempted)</td>
</tr>
<tr>
<td>AU</td>
<td>audit unsatisfactory / 0 (not counted as credits attempted)</td>
</tr>
<tr>
<td>S</td>
<td>satisfactory / 0 (counted as credits attempted)</td>
</tr>
<tr>
<td>U</td>
<td>unsatisfactory / 0 (not counted as credits attempted)</td>
</tr>
<tr>
<td>P</td>
<td>pass / 0 (counted as credits earned)</td>
</tr>
<tr>
<td>F</td>
<td>fail / 0 (counted as credits attempted; averaged into GPA)</td>
</tr>
<tr>
<td>F01 - F14</td>
<td>not active / 0 (counted as credits attempted; averaged into GPA). Student did not withdraw from the course officially, but failed to participate in course activities through the end of the period. There is insufficient evidence to make possible a meaningful evaluation of academic performance. The appropriate grade from the F01 to F14 range will appear as an &quot;F&quot; on the student record.</td>
</tr>
<tr>
<td>NR</td>
<td>no report / 0 (not averaged into GPA; the &quot;NR&quot; grade is posted for all missing grades)</td>
</tr>
<tr>
<td>PR²</td>
<td>in progress for thesis, seminar paper, culminating projects / 0 (not counted as credits attempted)</td>
</tr>
</tbody>
</table>

¹ The faculty Committee on Academic Policies and Standards (http://catalog.uwlax.edu/undergraduate/academicpolicies/academiceligibility/#committee-academic-policies-standards) has established EP and EF as grades that are to be utilized only for the emergency medical withdrawal of students and military call-ups. These grades will be recorded on the permanent academic record to indicate level of performance at the time of withdrawal; however, such grades will not be averaged into the student grade point average.

² The "PR" grade is only used at the graduate level.

### University pass/fail policy

1. Credits taken on a P/F basis will not be averaged into a grade point average if "P" is filed by the instructor. The credits will count as credits earned. An "F" will be averaged in and will be counted as credits attempted.
2. Specific courses are approved for pass/fail grading. Students do not have the option to request a graded course be taken as P/F.
3. A maximum of 21 credits of P/F course work can be used toward an undergraduate degree.
University incomplete (I) grade policy

An incomplete (I) is a temporary grading symbol (not a final course grade) that may be reported for a student who carried a subject through the last date that one may withdraw from a course and then, because of illness or other unusual and substantiated cause beyond the student’s control, was unable to take the final examination or complete a limited amount of remaining course work.

In no case may an incomplete be recorded by an instructor for a student who, through personal fault, has failed either to complete the requirements of the course on time or failed to report for the final examination as scheduled.

Before an incomplete is reported, there should be, in the judgment of the instructor, a reasonable probability that the student can complete the course successfully without attending class sessions again.

An incomplete (I) will be removed when the student submits all work due. An incomplete must be removed and a final grade recorded in the Office of Records and Registration no later than one calendar year (12 months) following the term in which the Incomplete was incurred, whether or not the student is enrolled.

In order to remove an incomplete, the student must make arrangements with the instructor for the satisfactory completion of the work remaining to be done in the course. This work was indicated on the "Incomplete Grade Request" that was submitted by the student and the instructor when the "I" was originally requested.

When the work has been completed, the instructor submits a final grade, which must also be approved by the department chair and the student’s dean. If the deadline for completion is not met, a grade of "F" will be recorded automatically at the time stated above. If the instructor indicated a grade other than "F" on the information sheet that was filed, that grade will be used instead of "F."

Note: A student should never register again for any course to remove a previously recorded incomplete unless the "I" grade has been converted to "F." This conversion of the "I" must be done prior to re-enrollment. The grade earned in repetition will supersede the "F" recorded, according to the established policy for course repetition.

In progress (PR) grade policy

A "PR" grade (Progress) will be used for seminar papers, theses, and terminal or culminating projects. The "PR" grade would be subject to the seven-year period for degree completion. If the "PR" grade is not changed after the seven-year period, the "PR" grade will either default to an "F" or the grade that was assigned by the instructor when completing the form.

Graduate change of final grade policy

An instructor may request to change a final grade for one semester immediately following the close of the semester in which the grade is first recorded. The instructor and department chair authorize the change by signing a "Change of Grade" form and forwarding it to the appropriate dean for signature. The dean will then file it with the Records and Registration Office.

An instructor may appeal the change of grade timeline after the one semester timeline has expired. The appeal will be heard first by the Graduate Advisory Board of the Graduate Council. Their recommendation will be presented to the full Graduate Council for deliberation.

Graduate appeal of final grade policy

All departments have established policies and procedures, which enable students to appeal final grades. These policies and procedures outline the progression of a formal appeal and specify who is empowered to change a final grade. All appeals for a final grade change must be initiated in writing through the department in question during the semester immediately following the semester in which the grade was earned. A copy of each department’s policies and procedures is on file in the office of the appropriate dean.
Graduate report of final grades policy

Official grades may be submitted at the end of each course and are viewable on WINGS; however, grade point averages are only updated at the end of the term. Academic action is taken at the end of each term. Grades are not mailed; they are available electronically via the WINGS Student Center.

Graduation/Commencement - Graduate

- Graduate level graduation fee (p. 24)
- Applying for graduation (p. 24)
- Graduate commencement participation (p. 24)
- Graduate level honors (p. 24)
- Mailing diplomas (p. 24)

Graduate level graduation fee

Current graduation fees (http://www.uwlax.edu/Cashiers/Tuition-and-fee-information) for graduate students are available in the Cashier’s Office on the current tuition and fee schedule. Students are billed for the graduation fee upon completion of 20 credits toward the master’s degree. This is a one-time fee assessed regardless of whether or not a student chooses to attend the commencement ceremony. There is an additional charge for the keepsake cap, gown, and hood for those attending the ceremony.

Applying for graduation

All students must apply for graduation. Graduate students must apply for graduation in the term in which they will successfully complete the thesis, comprehensive exams, or terminal project. Attendance at commencement ceremonies is optional. Graduate students who are enrolled in GRC 798, GRC 799, or any other course in the semester in which the degree will be awarded may electronically apply for graduation through the WINGS Student Center (https://wings.uwlax.edu/psp/csprod/?cmd=login). Students who have completed all required GRC 798 or GRC 799 enrollments in a prior semester must contact directly the Office of Records and Registration (117 Graff Main Hall) to apply for graduation.

Graduate commencement participation

Participation in commencement and hooding exercises signifies that course work and all other degree requirements have been satisfied. Students who have not completed all degree requirements, but have a compelling reason to participate in commencement exercises early, may request permission to do so. Permission must be obtained from their college dean’s office and the Director of Graduate Studies at least a month prior to commencement. Commencement ceremonies occur each year in December and May.

Graduate level honors

Considering the high academic achievement of graduate students and the required 3.00 cumulative grade point average upon graduation, commencement and graduation honors are not calculated for graduate students. Honor cords are worn only by undergraduate students at commencement, and honors are not noted on the graduate permanent record. The semester Dean’s List also is calculated for undergraduate students only.

Mailing diplomas

Diplomas are mailed approximately six weeks after the ending date of the semester to the current legal (home) address on the university computer system unless the Office of Records and Registration has been notified differently in writing. All indebtedness to the university must be cleared before a diploma is released.

Registration and Schedules - Graduate

- Academic advising (p. 24)
- Registration process (p. 24)
- Schedule changes after semester begins (p. 24) (drop/add/ change of schedule policy)
- Class drops at an instructor’s discretion policy (p. 25)
- Class drops after the change of schedule period: see the individual course withdrawal policy (p. ) in the university’s withdrawal policies.
- Student credit load policy (p. 25)
- Student credit load - international graduate students (p. 25)
- Class attendance (p. 25)
- Audit policy (p. 25)
- Undergraduate enrollment in graduate courses policy (p. 25)
- Graduate research, comprehensive exams, and terminal project completion policy (p. 26)

Academic advising

Advising is a critical part of graduate education. It is important for each student to meet with their program director early in their studies to chart a plan of study. Program directors serve as the advisors in some programs; in other programs, advisors are assigned. Consulting with your advisor prior to each registration will reduce the possibility of enrolling in courses which do not meet your goals.

Registration process

The university has online registration via the WINGS Student Center (https://wings.uwlax.edu/psp/csprod/?cmd=login). Registration for the winter and spring terms begins in November; summer registration begins a week before fall registration in early to mid-April. A student’s enrollment date and time is located on his/her WINGS Student Center. The student may register at that assigned time or any time after, through the fifth day of classes (third day for a summer term) unless enrollment limits have been met. Continuing students must have a zero balance on their accounts. The registration system will not permit a student to enroll in a class for which a prerequisite has not been completed. The online Timetable (http://www.uwlax.edu/Records/registration) and WINGS Class Search have complete instructions for registration and schedule changes after registration. Some graduate programs require that students register through their advisors instead of using the WINGS system.

All students are charged a non-refundable registration fee each term they register for one or more courses. If a student drops all classes before the term begins, the student is still responsible for this fee.
University drop/add/change of schedule policy

The period of time between a student’s initial registration for any term through the first five days of instruction in a semester (three days during a summer session) is considered to be the "drop/add/change of schedule" period. During this time, a student may drop classes without affecting the permanent academic record. A student may also add classes or change sections, if the desired section is not closed. Neither the advisor’s signature nor the instructor's signature is required for schedule changes during this period. The signatures of the department chair and the instructor will be required only if the student seeks to enter a class that is closed. Between the fifth and tenth days of instruction, to add a course, the student must obtain the instructor’s signature. After the tenth day of instruction, classes cannot be added except in unusual cases and then only with the consent of the instructor, department chair, and dean.

After the drop/add/change of schedule period, if a student withdraws from a course, the course withdrawal policy (http://catalog.uwlax.edu/undergraduate/academicpolicies/withdrawal/#withdrawal-classes) applies.

University class drops at an instructor's discretion policy

A student enrolled in any course is expected to be in attendance from the first day or to have notified the instructor or Student Life that attendance is not possible. A student registered in a section who fails to attend the first two class sessions or provide proper notification may be dropped from the course at the discretion of the instructor.

An instructor who wishes to drop a student from a course during the first five days of instruction should complete a drop/add form and submit it to the Office of Records and Registration during the "drop/add/change of schedule" period. A decision by an instructor to drop a student from a class may not be appealed to any other individual or body in the university. A student should not assume that an instructor will use the discretionary drop if the student does not attend class. It is a student’s responsibility to withdraw from a class.

Graduate student credit load policy

A recommended full-time load for a graduate student is 12 credits per semester. A maximum load is 15 credits per semester and nine credits during a 12-week summer session, with no more than six credits in a four-week summer session. (This applies to any combination of courses - all graduate or graduate/undergraduate.)

Students are considered full-time if enrolled for at least nine credits each semester and five semester credits during the summer term. Credit load requirements are different for students receiving financial aid during the summer. See the Financial Aid Office (http://www.uwlax.edu/finaid) for more information.

A student may earn, as a maximum, the number of credits corresponding to the number of weeks in any interim session (i.e., a student may earn a maximum of three credits during winter intersession). Any request to carry more than the maximum allowable credits for a semester, summer term, or winter intersession must be submitted in writing with documented "extenuating circumstances" and must be approved by the student’s graduate program director prior to enrollment for any of the previously mentioned sessions. An "Overload Request Form" is available from the graduate program director.

Student credit load - international graduate students

International Students: Both F-1 and J-1 student visa regulations require students to be enrolled full-time each fall and spring semester. Unless otherwise obligated by the requirements of their program or special circumstances as already described, full-time enrollment is defined as no less than nine graduate-level credits during the fall and spring semesters. Summer enrollment is not required by the U.S. federal government regulations for F-1/J-1 visa holders. However, summer enrollment may be required due to other circumstances. (See summer enrollment requirements for capstone continuation, graduate assistantships, and program progress.) Failure to maintain full-time status can result in loss of F-1/J-1 student benefits. Any exceptions to full-time enrollment must be authorized by International Education & Engagement (IEE). Permission by IEE to drop below full-time enrollment does NOT exempt an international student from meeting the enrollment requirement for assistantships.

Class attendance

Students are responsible to their respective instructors for all absences. If a student is absent an extended period of time (over one week), due to illness, family emergency, etc., the student should contact Student Life, 149 Graff Main Hall. That office will inform the instructors involved of the absence. This serves as notification only, not necessarily a formal excuse. It is the student’s responsibility to contact each instructor for make-up work, etc. There is no "cut" system. University regulations prohibit excusing students and the dismissal of classes immediately preceding or immediately following scheduled vacation or recess periods except in cases of commonly recognized and extreme emergencies.

University audit policy

Students may audit courses under the following arrangements:

1. Students must receive consent of the department chair and the instructor offering the course.
2. No change from audit to credit will be permitted after the first week of classes. No change from credit to audit will be permitted after the first half of a semester or summer session. Shorter courses have prorated deadlines.
3. No credit will be granted for any course that is audited. "Audit" will appear on the student’s permanent academic record. The "AS/AU" grading system is used for auditors. The grade will not affect a student’s GPA.
4. An audited course may be repeated for credit in another semester or term.
5. Appropriate tuition and fees are to be paid for the course.
6. Courses being audited are not usable to establish full-time or part-time status for any type of eligibility, such as for athletic participation, student grants/loans, or loan deferment.
7. Courses being audited may not be taken in excess of student load limits for credit generating courses without special "overload" permission from the student’s academic dean.
8. A course previously completed for credit may be audited in another term.

Students may audit courses under the following arrangements:

1. Students must receive consent of the department chair and the instructor offering the course.
2. No change from audit to credit will be permitted after the first week of classes. No change from credit to audit will be permitted after the first half of a semester or summer session. Shorter courses have prorated deadlines.
3. No credit will be granted for any course that is audited. "Audit" will appear on the student’s permanent academic record. The "AS/AU" grading system is used for auditors. The grade will not affect a student’s GPA.
4. An audited course may be repeated for credit in another semester or term.
5. Appropriate tuition and fees are to be paid for the course.
6. Courses being audited are not usable to establish full-time or part-time status for any type of eligibility, such as for athletic participation, student grants/loans, or loan deferment.
7. Courses being audited may not be taken in excess of student load limits for credit generating courses without special "overload" permission from the student’s academic dean.
8. A course previously completed for credit may be audited in another term.
University undergraduate enrollment in graduate courses policy

Undergraduate students with senior status (at least 90 credits) who have at least a 3.00 cumulative grade point average, may enroll in a maximum of six graduate credits. These graduate level credits may not be used to satisfy requirements for a bachelor's degree. Exceptions to these requirements must be approved by the Graduate Council. Maximum student credit load for dual enrollment (graduate/undergraduate) is 15 credit hours for a semester and eight credit hours for a summer term (standard university overload approval process applies). Undergraduate students are not allowed to enroll in graduate level MBA courses.

Students must submit written permission from the course instructor and their advisor, along with a graduate special non-degree application, to the Admissions Office prior to registering for a graduate course. Undergraduate tuition and fees are charged. Students in dual-degree programs must complete the graduate program application process and pay graduate tuition fees. Students are expected to purchase texts for graduate courses.

Graduate research, comprehensive exams, and terminal project completion policy

The Graduate Council has approved a graduate research, comprehensive exams, and terminal project completion policy for students who are still working on required research, comprehensive exams, or terminal projects. The purpose of this policy is to provide continued access to university faculty, technology, facilities, and the library.

GRC 798 - For students with interrupted registration

This registration is required for students who failed to meet the University’s Graduate Research and Terminal Project Completion Policy (did not register for GRC 799 immediately upon completing all degree requirements in an approved program of study except for thesis, comprehensive examination, seminar paper, or other culminating project). In order to comply with the policy, students must register for GRC 798 for zero credits and pay a special course fee equal to the cost of three resident graduate credits. Prerequisite: approval by graduate program director and reentry to former academic program; approved reentry to the university.

GRC 799 - For students with continuous registration

Once having completed all degree requirements in an approved program of study except for the thesis, seminar paper, comprehensive examination, or other culminating graduate projects, students must maintain continuous term-to-term enrollment (excluding winter intersession). Students meet this requirement by registering for GRC 799 for zero credits and paying a special course fee equal to the cost of one resident graduate credit.

1. Students who require only one term after their regular coursework to complete their thesis or culminating project need to register for only for one (1) term of GRC 799.
2. Students who need more than one (1) term after their regular coursework to complete their thesis or culminating project need to register for two and only two (2) continuous terms of GRC 799.

3. Students must register for GRC 798 if they failed to register for GRC 799 in either of the two terms immediately following completion of their regular coursework. Instead they register for GRC 798.

Students must register for GRC 799 (Fall, Spring, Summer) immediately following completion of all coursework. Students register for GRC 799 only when they are not registered for any other credits. Repeatable; max 8 enrollments.

1 Completion means that students may have pending incompletes in courses; it also means that students have pending PR grades in their thesis, seminar paper, culminating project credits, but that they no longer have any other courses yet to register for.

Transfer Credits - Graduate

The Office of University Graduate Studies at UWL subscribes to the statement by the Council of Graduate Schools that describes a master’s program as a coherent sequence of lectures, seminars, discussions, and independent studies or investigations designed to help the student acquire an introduction to the mastery of knowledge, creative scholarship, and research in the student’s field. The college or university that offers a master’s degree undertakes a responsibility in the public interest to establish and maintain high quality in the experience given to its students.

Thus, a graduate program of study is not merely a collection of courses taken in satisfaction of a set of degree requirements. A high quality graduate experience is characterized by graduate students, advised and taught by faculty scholars, participating in an intellectual and creative pursuit and interchange with other students and faculty in the discipline.

The following transfer policy has been established in keeping with a commitment to highest quality and integrity.

Graduate level transfer credit policy

In order to be considered for graduate transfer credit at UWL, these requirements must be met:

1. Transfer credits will not be accepted with grades lower than "B" (not "BC" or "B-") or equivalent nor with grades of "pass." Staff from the Office of International Education may assist in evaluation of courses from international institutions.
2. The institution offering the course must be regionally accredited at the graduate level if it is a domestic institution, or internationally recognized if it is an international institution.
3. The course must be acceptable for graduate credit toward a graduate degree at the offering institution and must be appropriate to a degree at UWL.
4. It must appear as a graduate course on the student's graduate transcript from the offering institution.
5. Students may be granted permission to transfer a maximum of nine semester credits. This maximum may vary in the case of special consortia or joint degree programs recognized by the Graduate Council. Students pursuing a master's degree may transfer no more than nine credits from a previous master's degree or other recognized post-baccalaureate degree program, regardless of whether the graduate degree was awarded by UWL or another institution.
6. All credits must have been earned during the seven-year period prior to the proposed date of the completion of all required graduate work.
7. Students must submit a formal request for approval of transfer credits. Students currently enrolled at UWL must secure approval from their graduate program director and college dean in advance.
of enrollment at another institution for such course work to transfer back to UWL.

8. UWL Admissions Office requests transcripts be sent directly from the issuing institution(s). Officials will not accept transcripts that come directly from the student and/or those marked "Issued to Student" unless the transcripts remain sealed in an envelope stamped by the issuing institution(s).

Graduate program directors have discretion in evaluating proposed transfer credits and determining if graduate courses taken at other institutions may apply to a student’s program of study at UWL. In addition to reviewing an official graduate transcript, graduate program directors may request to review a course syllabus, written assignments, and examinations in order to assist them in their evaluations. Other factors that may be considered include the method of course delivery and course format. Individual program directors may have program-specific information on credit transfer policies and procedures.

Seven Year Completion Policy - Graduate

Students must complete all degree requirements within seven years from the time of initial enrollment in the graduate program and apply for graduation (p. 24) in order to have the degree awarded.

Withdrawal Policies

• Individual course withdrawal/drop policy (p. 27)
• Withdrawal from the university policy (p. 27)
• Medical withdrawal policy (p. 27)
• Military duty withdrawal from the university policy (p. 28)

Individual course withdrawal policy

Any student may withdraw from a class until one week beyond mid-term of a semester or a summer session. All withdrawals from classes after the "drop/add/change-of-schedule" period are recorded with a "W" on the student’s permanent academic record along with the official date of withdrawal. (See the university drop/add/change of schedule policy (http://catalog.uwlax.edu/undergraduate/academicpolicies/registrationand scheduling/#schedule-changes) for details on the add/drop/change of schedule period.) Half-term courses or short-term courses have withdrawal time limits established on a basis prorated to withdrawal dates for a full-term course. The student must obtain either the advisor’s or the instructor’s signature during this time period. No student is permitted to withdraw from a class later than one week beyond mid-term of a semester or summer term. Only a grade of "F" or "I" may be recorded for any student who enters this time period and fails to complete a course. See the withdrawal from UWL policy (http://catalog.uwlax.edu/undergraduate/academicpolicies/withdrawal/withdrawal-university) for exceptions.

Failure to follow the prescribed procedures and to observe the prescribed time limits for withdrawal from classes will result in the recording of failing grades in discontinued courses. If a student withdraws from a course taken as a "repeat," the original grade earned will remain in the overall grade point average calculation.

Withdrawal from UWL policy

Withdrawal from the university is a matter of major importance. Students considering withdrawal from school, should discuss the matter with an academic advisor, program director, and/or dean prior to initiating action. The official date of withdrawal from all classes will be recorded on the permanent academic record if the student withdraws after classes begin.

Forms for withdrawing from the university may be obtained from Student Life, 149 Graff Main Hall. The forms provide a checklist which withdrawing students are expected to follow carefully. Withdrawal procedures must be fully completed before a withdrawal becomes official.

An official withdrawal entitles a student to a refund of fees when the withdrawal date falls within a refund period. The official date of withdrawal is the date the withdrawal form is received in the Records and Registration Office. A "W" (Withdrawal) will appear on the student’s academic transcript if the withdrawal date is prior to one week after mid-term of a given semester. A grade of "WP" or "WF" will appear if the withdrawal falls after the mid-term point. A grade of "WF" will be averaged into the GPA. Withdrawal from the university is not allowed after the three-quarter point of the term. Students who withdraw after classes have begun will be charged a withdrawal fee (https://www.uwlax.edu/Cashiers/Refund-information).

An unofficial withdrawal will result in recording failing grades in discontinued courses and in encumbering of student records if the following obligations to the university have not been met: release from graduate assistantship obligations, if appropriate; returning books to textbook service and Murphy Library; returning other university supplies and/or equipment issued during preceding periods of regular enrollment; clearing a record through an exit interview in the Financial Aid Office, if applicable; and securing a final clearance in the Cashier’s Office with respect to any refund(s) which may be due or obligations unfulfilled regarding university fees, housing or food service arrangements, or accounts, and relinquishing the student identification card.

In some cases, students may request an emergency medical withdrawal from the university. See policy (p. 27) above.

Note: Pursuant to the regulations of Title IV of the Federal Higher Education Act of 1965, as amended, students who receive student financial aid and receive all F1-F14 grades (recorded as 'F’s) will be subject to the federal Title IV Return of Funds Policy. These students may be required to return funds to the student financial programs and may also be liable for repayments directly to UW-La Crosse.

Medical withdrawal policy

Emergency medical withdrawal may be initiated by a student or authorized agent at any time. Either a complete withdrawal from all courses at the university or a partial withdrawal from some courses may be requested. The withdrawal request must be supported by a letter from a health care provider which describes the limitations on the student’s continued participation in courses. The nature of the limitations may necessitate withdrawal from some courses but allow continued participation in other courses. The limitations will form a consistent standard for withdrawal that can be applied to all courses in which the student is currently enrolled. The Student Health Center will verify the authenticity of the support letter and will notify Student Life. For undergraduate students, Student Life will consult the appropriate academic dean and instructors. For graduate students, Student Life will consult the appropriate academic dean, the Director of Graduate Studies, the appropriate graduate program director, and all of the student’s instructors. If the withdrawal is granted, Student Life will notify the Records and Registration Office and the Cashier’s Office. When the
withdrawal is completed, the Records and Registration Office will notify instructors if a grade is required.

For courses in which the student has withdrawn, the permanent academic record will show no credits were earned. However, the status of the student's grades at the time of the withdrawal will be posted. The record will show one of the following grades submitted by the instructor: "EP" (emergency withdrawal passing) or "EF" (emergency withdrawal failing). Such grades will not be included in the computation of the term or cumulative grade point average.

Any exception to the policies of the emergency medical withdrawal must be appealed to the university's Committee on Academic Policies and Standards (http://catalog.uwlax.edu/undergraduate/academicpolicies/academiceligibility/#committee-academic-policies-standards) (CAPS).

**Military duty withdrawal from the university**

Military duty withdrawal applies to those students who are ordered to active duty (i.e., active duty Reserve, National Guard), not to individuals who voluntarily enlist. A copy of the orders/activation papers must be submitted to Student Life, 149 Graff Main Hall. The staff in that office will provide assistance and guidance with the withdrawal process, which may occur at any time. Depending on when the withdrawal is effective, options are available for complete or partial withdrawal with grades of "EP" and "EF," for accepting normal letter grades, or for "Incomplete" grades.

Refunds will be calculated based on dates and options selected. More information can be found in the university's full Military Duty Withdrawal Policy (http://www.uwlax.edu/Records/Veteran-students).
Murphy Library

Director: Catherine Lavallée-Welch
110 Murphy Library; 608.785.8805
Email: clavallee-welch@uwlax.edu

University Business Specialist Supervisor: Ingrid Iverson
111 Murphy Library, 608.785.8520
Email: iiverson@uwlax.edu
1631 Pine St, La Crosse, WI 54601
608.785.8505 (general number)
608.785.8639 (fax)
Email: libraryoffice@uwlax.edu
www.uwlax.edu/murphylibrary

Departments/units (p. 29)  Mission & values (p. 29)

Murphy Library is the campus center for academic inquiry. The library provides access to a vast and diverse collection of electronic and print resources; facilities designed to accommodate in a flexible manner a variety of learning needs; technologies that complement and enhance the acquisition, synthesis and use of information; and staff to help students find and use the quality information they need.

Departments/units
Library Department (p. 30)

Mission & values

Mission statement
Murphy Library is integral to student success at the University of Wisconsin-La Crosse. The library provides a dynamic and diverse learning environment centered on the core principles of service, stewardship, information literacy and equity of access. Exemplifying these principles, this teaching library carefully manages information resources that support and promote excellence in academic study and research, success in teaching and learning, and intellectual and cultural exploration. Murphy Library additionally serves the greater community as a regional information center.

Values statement
To fulfill the Library’s mission, the Library Director, Library Department and staff uphold the following values:

People
We value library users and are committed to providing a consistently high level of services to all: students, faculty, staff, and community members. We believe in open communication and treating users and library colleagues with courtesy and respect. We respect the confidentiality of users’ information requests and library records.

Access
We provide the greatest access possible to information in various formats, in collaboration with faculty, to support the instructional and research-related fields of the university curriculum. We share library resources through interlibrary loan and cooperative ventures with other libraries. We organize collections and manage digital and physical access for ease of retrieval by a diverse group of on- and off-campus users.

Inquiry
As a teaching library, we promote critical thinking and exploration by teaching students and other users information literacy skills for university work and lifelong learning. We treasure the ideals of free speech and unfettered inquiry.

Diversity
We support an understanding and appreciation of diversity through collections and information access, services, the instruction program and staff. Read our full diversity statement (http://www.uwlax.edu/MurphyLibrary/About-the-library/Diversity).

Innovation
We embrace an environment of continuous change leading to new and improved library technologies, products and services.

Stewardship
We utilize funding responsibly and seek cooperative arrangements with other libraries to maximize the benefits for library users. We maintain our collections, a secure facility, and a healthful environment for current and future users. We preserve the local cultural heritage by collecting regional materials.

Graduate student services

• Resources
  • Databases and journals
  • Books and multimedia
  • Rare books
  • University archives
  • La Crosse history
  • Digital collections
  • Alice Hagar Curriculum Center
  • Government collections and depository
  • Guides and reference materials

• Services
  • Interlibrary loan
  • UW System resource sharing
  • Reserving materials
  • Consulting a librarian (by appointment, walk-up, phone, email, chat, text)
    • Research help/guidance
    • Use of technology
    • Borrowing materials
    • Reserving materials or room
Library Department

Murphy Library
Department Chair: Michael Current
124 Murphy Library; 608.785.8739
Email: mcurrent@uw lax.edu
www.uwlax.edu/murphylibrary/

The faculty who comprise the Library Department endorse and embrace the framework for information literacy - the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning. In managing the collections and services of Murphy Library, library faculty collaborate closely with other departments to ensure that students develop the skills to efficiently identify and effectively utilize high quality, relevant, and appropriate information resources. Information literate students learn to not only navigate but also participate in the realm of scholarly communication and discourse.

The Library Department’s expanding array of teaching modalities include the management of collections of information resources selected specifically for their curricular relevance; direct classroom instruction for hands-on learning through lessons typically designed in support of specific course assignments; on-demand and by-appointment research consultation services offered directly to students; and the development and management of targeted guides and tutorials on superior information resources, tools, and strategies. Such teaching activities lead directly to student learning and success across academic disciplines, and they lay the groundwork for a lifetime as an educated and well-informed citizen.

2016-17 Faculty/Staff

Professor
Catherine Lavallée-Welch

Associate Professor
John Jax
Stefan Smith

Assistant Professor
Paul Beck
Michael Current
Katie Fox
Teri Holford-Talpe
Liz Humrickhouse-Lee
Heather Jett
David Mindel

Distinguished Academic Librarian
William Doering

Associate Academic Librarian
Laura Godden

University Staff
Mark Beckerjeck
Kevin Dinsmore
Ingrid Iverson
Amber Leibundgut-Peterson
Marc Manke
Dirck Nagy
Michael Olson
Terrence Stika
Dwayne Webb
Student Resources

A wide variety of graduate student resources (http://www.uwlax.edu/Graduate-studies) can be found with the Office of University Graduate Studies, 223 Graff Main Hall, 608.785.8124.
University Degree Requirements and Policies for Graduate Students

Graduate degree requirements

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

Second master’s degree policy

A graduate of a UWL master's degree program may earn a second UWL master's degree by meeting the following conditions:

1. Submit a new application for admission with the application fee.
2. Become accepted into the degree program by the appropriate college and program.
3. Complete program requirements. A maximum of nine semester credits of course requirements of the second UWL master's degree may be fulfilled by course work completed for a previous UWL master's degree. Individual programs may have a more restrictive policy on transferring credits from a previously earned master's degree. Program directors and deans approve credits that apply from program to program.

4. All general requirements for the master's degree apply to the second master's degree. Students must complete the terminal project for the second master's degree required by the program. All requirements must be completed within seven years, including credits accepted from a previous master's degree.

Students who received a master's degree from another institution must also meet the above requirements. The graduate transfer policy (p. 26) will be used to determine credit to be awarded for previous course work from another institution.
Graduate Degrees and Program Requirements

Links below go directly to the program’s page within the catalog.

Biology (BIO)
- Biology Graduate Program (p. 34)
  - Biology - MS (p. 34)
  - Biology - MS: Aquatic Science Concentration (p. 35)
  - Biology - MS: Cellular and Molecular Biology Concentration (p. 36)
  - Biology - MS: Clinical Microbiology Concentration (p. 37)
  - Biology - MS: Microbiology Concentration (p. 38)
  - Biology - MS: Nurse Anesthesia Concentration (p. 39)
  - Biology - MS: Physiology Concentration (p. 40)

Business (CBA)
- Master of Business Administration Program - MBA (p. 42)

Computer Science (CS)
- Master of Software Engineering Program - MSE (p. 45)

Exercise and Sport Science (ESS)
- Clinical Exercise Physiology Graduate Program - MS (p. 48)
- Human Performance Graduate Program (p. 50)
  - Human Performance - MS: Applied Sport Science Emphasis (p. 50)
  - Human Performance - MS: Strength and Conditioning Emphasis (p. 51)
- Physical Education Teaching Graduate Program (p. 53)
  - Physical Education Teaching - MS (p. 56)
  - Physical Education Teaching - MS: Adapted Physical Education Emphasis
  - Physical Education Teaching - MS: Adventure/Outdoor Pursuits Emphasis (p. 55)

Health Education and Health Promotion (HED)
- Health Education: Community Health Education Graduate Program - MS (p. 57)
- Health Education: School Health Education Graduate Program - MS (p. 59) (program not accepting new students)
- Master of Public Health in Community Health Education Program - MPH (p. 61)

Health Professions (HP)
- Medical Dosimetry Graduate Program (p. 63)
  - Track A: Dosimetry for Radiation Therapist - MS (p. 63)
  - Track B: Dosimetry for Non-Radiation Therapist - MS (p. 64)
  - Track C: Dosimetry for Certified Medical Dosimetrists - MS (p. 66)
- Doctor of Physical Therapy Program - DPT (p. 71)
- Occupational Therapy Graduate Program - MS (p. 68)
- Physician Assistant Studies Graduate Program - MS (p. 75)

Mathematics and Statistics (MTH/STAT)
- Data Science Graduate Program - MS (p. 82)

Microbiology (MIC)
- Microbiology Graduate Program (p. 79)
  - Microbiology - MS (p. 79)
  - Microbiology - MS: Clinical Microbiology Emphasis (p. 80)

Psychology (PSY)
- School Psychology Graduate Program (p. 83) (year 1)
  - Master of Science in Education - MSED (p. 84)
- School Psychology Graduate Program (p. 86) (year 2 & 3)
  - Educational Specialist - Ed.S. (p. 86)

Recreation Management (REC)
- Recreation Management Graduate Program - MS (p. 89)
- Therapeutic Recreation Graduate Program - MS (p. 91)

School of Education, Professional and Continuing Education (SOE)
- Department of Educational Studies
  - Reading Graduate Program (p. 98)
    - Reading, MSED - non certification (p. 98)
    - Reading, MSED - with Reading Teacher (1316) certification (p. 100)
    - Reading, MSED - with Reading Teacher (1316) and Reading Specialist (5017) certification (p. 99)
    - Reading Teacher (1316) certification (p. 101)
- Institute for Professional Studies in Education
  - Professional Studies in Education Graduate Programs (p. 94)
    - Professional Development Learning Community - ME-PD (p. 94)
    - Educational Leadership Certificate (p. 95)
    - English Language Arts Elementary Certificate (p. 96)
    - Professional Learning Community Certificate (p. 96)

Student Affairs Administration (SAA)
- Student Affairs Administration Graduate Program (p. 101)
- Student Affairs Administration in Higher Education - MSED: On-Campus (p. 103)
- Student Affairs Administration in Higher Education - MSED: Online (p. 103)
- Student Affairs Administration in Higher Education - MSED: UWRF Partner (p. 102)
- Student Affairs Administration and Leadership Graduate Program (p. 105)
  - Doctor of Education - Ed.D. (p. 105)
BIO - Biology Graduate Program

Biology Program

Biology - Aquatic Science Program
Biology - Cellular & Molecular Program
Biology - Nurse Anesthetist Program
Biology - Physiology Program

Director: Anita Baines
4032 Cowley Hall; 608.785.8239
Email: abaines@uwlaus.edu

Biology – Clinical Microbiology Program
Biology – Microbiology Program

Director: Michael Hoffman
3023 Cowley Hall; 608.785.6984
Email: mhoffman@uwlaus.edu

http://www.uwlaus.edu/biology-ms/

The Master of Science in Biology Program is a multi-disciplinary program that allows students advanced study in several traditional and non-traditional areas of biology. Students have the option of a general M.S. degree in biology (Build your own degree!) or may obtain an M.S. degree in biology with a formal concentration in aquatic science, cellular and molecular biology, clinical microbiology, microbiology, nurse anesthesia, or physiology.

Admission to the program is based, in part, on undergraduate grade point average (GPA), scores on the GRE general exam, letters of recommendation, and on individually prescribed undergraduate course work to meet prerequisite requirements for each concentration. Each student will choose a major advisor and an advisory committee during the first semester of residence. This committee will assist the student in drafting the student’s plan of study, which will dictate the student’s curriculum for the ensuing semesters.

All students complete a capstone experience. Students obtaining the M.S. in biology or M.S. in biology with a clinical microbiology concentration complete a thesis or seminar paper. Students obtaining the M.S. in biology with an aquatic science concentration, cellular and molecular biology concentration, microbiology concentration, or physiology concentration complete a thesis. Students obtaining the M.S. in biology with a nurse anesthesia concentration complete extensive clinical training.

2016-17 Faculty/Staff

The following is the graduate faculty as of the publication date of this catalog. This list will not be updated again until the next catalog is published in June.

Professor
Scott Cooper
Roger Haro
Margaret Maher
Jennifer Miskowkski
Mark Sandheinrich
Meredith Thomsen
Thomas Volk

Associate Professor
Michael Abler
Anita Baines
Anne Galbraith
Tisha King-Heiden
Sumei Liu
Anton Sanderfoot
Gregory Sandland
Bradley Seebach
Eric Strauss

Assistant Professor
Sierra Colavita
Christine Schwartz

Graduate degrees

• Biology - MS (p. 34)
• Biology - MS: Aquatic science concentration (p. 35)
• Biology - MS: Cellular and molecular biology concentration (p. 36)
• Biology - MS: Clinical microbiology concentration (p. 37)
• Biology - MS: Microbiology concentration (p. 38)
• Biology - MS: Nurse anesthesia concentration (p. 39)
• Biology - MS: Physiology concentration (p. 40)

Biology - Master of Science

This traditional master’s degree program is designed to provide the most beneficial learning opportunities based on career goals and the student’s area of focus. It is intended for students who do not plan to obtain one of the formal concentrations within the M.S. Biology Program.

Program requirements

Students are required to:
1. Complete a thesis or seminar paper in an area of biology,
2. Pass an oral comprehensive exam, and
3. Complete 30 credits selected by the student and the advisory committee.

Degree requirements

Biology graduate student requirements

All graduate students in biology must meet the following requirements:
1. Prior to registration each semester, the student must consult with the major advisor.
2. Submit a written thesis or seminar paper proposal to the advisory committee prior to the midterm of the second semester of residence. CRNA students are exempt from this requirement and
are not required to complete a thesis or seminar paper as part of the degree program.

3. Enroll in BIO 751 Graduate Seminar (1 cr.) or MIC 751 Graduate Seminar (1 cr.), Graduate Seminar, during the first four semesters of residence. Two of the semesters must be taken for one credit each; the other two semesters will be taken on an audit (no credit) basis. CRNA students are exempt from this requirement.

4. Students who are on campus, utilizing university staff and/or facilities must enroll for a minimum of two credit hours per term, including fall or spring semester and summer sessions.

5. Students are encouraged to complete an appropriate graduate course (numbers 500 and above) from outside the departments of biology and microbiology. Upon approval of a student’s advisory committee, a student may be permitted to take a maximum of 10 graduate credits in other departments.

6. Pass a preliminary oral examination covering the student’s area of specialty and advanced course work.

7. Complete at least 15 credits of 700-level course work.

8. Consult this catalog and the department’s graduate student guidelines for additional policies pertaining to graduate students in a biology program.

**Graduate degree requirements**

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

**Biology: Aquatic Science**

**Concentration - Master of Science**

**Program requirements**

This concentration requires:

1. Completion of a research thesis in an area of aquatic science,
2. Passing an oral comprehensive exam, and
3. Completion of 30 credits with at least 15 credits from the following list; remaining credits are to be selected by the student and the advisory committee.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 505</td>
<td>Aquatic and Wetland Vascular Plants</td>
<td>2</td>
</tr>
<tr>
<td>BIO 514</td>
<td>Freshwater Invertebrate Zoology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 519</td>
<td>Quantitative Methods in Ecology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 522</td>
<td>Ichthyology</td>
<td>3</td>
</tr>
<tr>
<td>MIC 534</td>
<td>Aquatic Microbial Ecology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 546</td>
<td>Animal Behavior</td>
<td>3</td>
</tr>
<tr>
<td>BIO 547</td>
<td>Standard Methods/Quality Assurance Water Analyses</td>
<td>3</td>
</tr>
<tr>
<td>BIO 548</td>
<td>Aquatic Toxicology</td>
<td>4</td>
</tr>
<tr>
<td>BIO 558</td>
<td>Comparative Animal Physiology</td>
<td>4</td>
</tr>
<tr>
<td>BIO 563</td>
<td>Aquatic Animal Health</td>
<td>3</td>
</tr>
<tr>
<td>BIO 564</td>
<td>Stream and Watershed Ecology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 799</td>
<td>Research: Master’s Thesis</td>
<td>1-6</td>
</tr>
</tbody>
</table>

Total credits: 30

With the approval of the student’s advisory committee, other courses may be substituted for those listed.

**Degree requirements**

**Biology graduate student requirements**

All graduate students in biology must meet the following requirements:

1. Prior to registration each semester, the student must consult with the major advisor.
2. Submit a written thesis or seminar paper proposal to the advisory committee prior to the midterm of the second semester of residence. CRNA students are exempt from this requirement and are not required to complete a thesis or seminar paper as part of the degree program.
3. Enroll in BIO 751 Graduate Seminar (1 cr.) or MIC 751 Graduate Seminar (1 cr.), Graduate Seminar, during the first four semesters of residence. Two of the semesters must be taken for one credit each; the other two semesters will be taken on an audit (no credit) basis. CRNA students are exempt from this requirement.
4. Students who are on campus, utilizing university staff and/or facilities must enroll for a minimum of two credit hours per term, including fall or spring semester and summer sessions.
5. Students are encouraged to complete an appropriate graduate course (numbers 500 and above) from outside the departments of biology and microbiology. Upon approval of a student’s advisory committee, a student may be permitted to take a maximum of 10 graduate credits in other departments.
6. Pass a preliminary oral examination covering the student’s area of specialty and advanced course work.
7. Complete at least 15 credits of 700-level course work.
8. Consult this catalog and the department's graduate student guidelines for additional policies pertaining to graduate students in a biology program.

Graduate degree requirements
After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

Biology: Cellular and Molecular Biology Concentration - Master of Science

Program requirements
This concentration requires:

1. Completion of a research thesis in an area of cellular or molecular biology,
2. Passing an oral comprehensive exam, and
3. Completion of 30 credits with at least 15 credits from the following list; remaining credits are to be selected by the student and the advisory committee.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIC 516</td>
<td>Microbial Genetics</td>
<td>5</td>
</tr>
<tr>
<td>BIO 532</td>
<td>Biology of Cancer</td>
<td>2</td>
</tr>
<tr>
<td>BIO 535</td>
<td>Molecular Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 536</td>
<td>Molecular Biology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>BIO 537</td>
<td>Plant Growth and Development</td>
<td>3</td>
</tr>
<tr>
<td>BIO 543</td>
<td>Molecular Mechanism of Disease and Drug Action</td>
<td>3</td>
</tr>
<tr>
<td>BIO 558</td>
<td>Comparative Animal Physiology</td>
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</tr>
<tr>
<td>BIO 563</td>
<td>Aquatic Animal Health</td>
<td>3</td>
</tr>
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<td>BIO 714</td>
<td>Advanced Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIO 799</td>
<td>Research: Master's Thesis</td>
<td>1-6</td>
</tr>
</tbody>
</table>

Total credits: 30

With the approval of the student's advisory committee, other courses may be substituted for those listed.

Degree requirements

Biology graduate student requirements
All graduate students in biology must meet the following requirements:

1. Prior to registration each semester, the student must consult with the major advisor.
2. Submit a written thesis or seminar paper proposal to the advisory committee prior to the midterm of the second semester of residence. CRNA students are exempt from this requirement and are not required to complete a thesis or seminar paper as part of the degree program.
3. Enroll in BIO 751 Graduate Seminar (1 cr.) or MIC 751 Graduate Seminar (1 cr.), Graduate Seminar, during the first four semesters of residence. Two of the semesters must be taken for one credit each; the other two semesters will be taken on an audit (no credit) basis. CRNA students are exempt from this requirement.
4. Students who are on campus, utilizing university staff and/or facilities must enroll for a minimum of two credit hours per term, including fall or spring semester and summer sessions.
5. Students are encouraged to complete an appropriate graduate course (numbers 500 and above) from outside the departments of biology and microbiology. Upon approval of a student's advisory committee, a student may be permitted to take a maximum of 10 graduate credits in other departments.
6. Pass a preliminary oral examination covering the student's area of specialty and advanced course work.
7. Complete at least 15 credits of 700-level course work.
8. Consult this catalog and the department's graduate student guidelines for additional policies pertaining to graduate students in a biology program.

Graduate degree requirements
After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the
This concentration is offered by the Department of Biology, the Department of Microbiology, Gundersen Lutheran Medical Center, Marshfield Laboratories/St. Joseph’s Hospital/Marshfield Clinic, and the Wisconsin State Laboratory of Hygiene. This program involves on-campus coursework and clinical rotations at Gundersen-Lutheran Medical Center, Marshfield Laboratories/St. Joseph’s Hospital/Marshfield Clinic, and the Wisconsin State Laboratory of Hygiene. Students who complete the clinical microbiology concentration are eligible to secure Specialist Microbiologist (SM-AAM) certification of the American Academy of Microbiology. The combination of classroom education, clinical rotations, and research experience will prepare students for a variety of employment opportunities including:

1. Supervisory positions in medical centers and public health and private reference laboratories
2. Research and development positions in academia, government agencies, or industry
3. Infection control positions in clinical settings
4. Public health and epidemiology
5. Marketing and sales in the pharmaceutical or biotechnology industries, and
6. Teaching at community or technical colleges.

Program requirements

This concentration requires:

1. Completion of a research thesis (Plan A) or seminar paper (Plan B) in an area of clinical microbiology (including an oral defense of the thesis or seminar paper),
2. Passing an oral comprehensive exam, and
3. Completion of the core curriculum of a minimum of 32 credits.

Admission requirements

1. Individuals accepted into the Clinical Microbiology Program must hold a Bachelor of Science degree or equivalent in microbiology, biology, or a related field with competency in microbiology. Graduates with a clinical laboratory science degree from a program accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) are also eligible. Minimum prerequisites for admission to the program are MIC 230

Biology: Clinical Microbiology Concentration - Master of Science

This concentration is offered by the Department of Biology, the Department of Microbiology, Gundersen Lutheran Medical Center, Marshfield Laboratories/St. Joseph’s Hospital/Marshfield Clinic, and the Wisconsin State Laboratory of Hygiene. This program involves on-campus coursework and clinical rotations at Gundersen-Lutheran Medical Center, Marshfield Laboratories/St. Joseph’s Hospital/Marshfield Clinic, and the Wisconsin State Laboratory of Hygiene. Students who complete the clinical microbiology concentration are eligible to secure Specialist Microbiologist (SM-AAM) certification of the American Academy of Microbiology. The combination of classroom education, clinical rotations, and research experience will prepare students for a variety of employment opportunities including:

1. Supervisory positions in medical centers and public health and private reference laboratories
2. Research and development positions in academia, government agencies, or industry
3. Infection control positions in clinical settings
4. Public health and epidemiology
5. Marketing and sales in the pharmaceutical or biotechnology industries, and
6. Teaching at community or technical colleges.

Program requirements

This concentration requires:

1. Completion of a research thesis (Plan A) or seminar paper (Plan B) in an area of clinical microbiology (including an oral defense of the thesis or seminar paper),
2. Passing an oral comprehensive exam, and
3. Completion of the core curriculum of a minimum of 32 credits.

Admission requirements

1. Individuals accepted into the Clinical Microbiology Program must hold a Bachelor of Science degree or equivalent in microbiology, biology, or a related field with competency in microbiology. Graduates with a clinical laboratory science degree from a program accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) are also eligible. Minimum prerequisites for admission to the program are MIC 230

Fundamentals of Microbiology, MIC 310 Immunology, MIC 410 Immunology Laboratory, MIC 407/MIC 507 Pathogenic Bacteriology, or equivalent courses. A strong chemistry background including biochemistry is strongly recommended. Students lacking prerequisites may be conditionally admitted to the concentration contingent on remediation of prerequisites. Remediated prerequisite courses do not count toward the M.S. degree.

2. Cumulative undergraduate grade point average (GPA) of at least 2.85.
3. Completion of the Graduate Record Examination (GRE). A minimum score of 1000 for the total general test scores for verbal and qualitative sections is strongly recommended.
4. Students must complete an "Application for Admission to Graduate Study" form. Students requesting financial aid must also complete the "Application for Graduate Assistantship" form.
5. Three current letters of recommendation.
6. An application letter which details:
   a. Academic and professional goals
   b. Previous relevant experiences
   c. Reasons for selecting program
   d. Intent to pursue thesis or non-thesis track or undecided
   e. Research interest(s) if pursuing the thesis track
   f. Possible faculty mentor(s) for research if pursuing the thesis track

7. Completed application forms, letters of recommendation, and applicant letter must be returned to the Admissions Office by January 20. Early applications can be considered prior to the deadline. A review committee will assess all submitted materials and a letter of decision will be sent to the applicant by February 15. An interview may be required in some instances. Acceptance or non-acceptance is based upon a comprehensive review of all elements of the completed application. Late applications will be considered if enrollment objectives have not been satisfied.

The graduate Clinical Microbiology Program (http://www.uwlax.edu/Clinical-Microbiology-MS/Admission-requirements) has further application and contact information online.

Curriculum

Plan A -- Thesis

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MIC 500</td>
<td>Orientation to Clinical Microbiology</td>
<td>2</td>
</tr>
<tr>
<td>MIC 554</td>
<td>Mechanisms of Microbial Pathogenicity</td>
<td>2</td>
</tr>
<tr>
<td>MIC 751</td>
<td>Graduate Seminar (2 credits required)</td>
<td>2</td>
</tr>
<tr>
<td>MIC 753</td>
<td>Epidemiology of Infectious Disease</td>
<td>2</td>
</tr>
<tr>
<td>MIC 755</td>
<td>Advanced Immunology</td>
<td>2</td>
</tr>
<tr>
<td>MIC 770</td>
<td>Clinical Microbiology Practicum I</td>
<td>5</td>
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<td>MIC 780</td>
<td>Clinical Microbiology Practicum II</td>
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<tr>
<td>MIC 790</td>
<td>Clinical Microbiology Practicum III</td>
<td>2</td>
</tr>
<tr>
<td>MIC 799</td>
<td>Research: Master's Thesis</td>
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<tr>
<td>Minimum electives</td>
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</tr>
<tr>
<td>Total Credits</td>
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</table>

Plan B -- Non-thesis

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MIC 500</td>
<td>Orientation to Clinical Microbiology</td>
<td>2</td>
</tr>
<tr>
<td>MIC 554</td>
<td>Mechanisms of Microbial Pathogenicity</td>
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<td>MIC 751</td>
<td>Graduate Seminar (2 credits required)</td>
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<tr>
<td>MIC 753</td>
<td>Epidemiology of Infectious Disease</td>
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</tr>
<tr>
<td>MIC 755</td>
<td>Advanced Immunology</td>
<td>2</td>
</tr>
</tbody>
</table>
Biology: Microbiology Concentration - Master of Science

Graduate degree requirements

After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)
1. Completion of a research thesis (MIC 799, 2-6 credits) in an area of microbiology (including an oral defense of the thesis),
2. Passing an oral comprehensive exam, and
3. Completion of 30 credits of graduate course work with at least 20 credits from the following list. The remaining credits are selected by the student and the advisory committee.

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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<td>Parasitology</td>
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<tr>
<td>BIO 512</td>
<td>Mycology</td>
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<td>BIO 513</td>
<td>Medical Mycology</td>
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<td>BIO 535</td>
<td>Molecular Biology</td>
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<td>BIO 536</td>
<td>Molecular Biology Laboratory</td>
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<tr>
<td>BIO 563</td>
<td>Aquatic Animal Health</td>
<td>3</td>
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<td>BIO 701</td>
<td>Communication in the Biological Sciences</td>
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<td>CLI 540</td>
<td>Clinical Parasitology</td>
<td>1</td>
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<td>MIC 507</td>
<td>Pathogenic Bacteriology</td>
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<td>MIC 510</td>
<td>Immunology Laboratory</td>
<td>2</td>
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<td>MIC 516</td>
<td>Microbial Genetics</td>
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<td>MIC 520</td>
<td>Introductory Virology</td>
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<td>MIC 521</td>
<td>Virology Laboratory</td>
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<tr>
<td>MIC 525</td>
<td>Bacterial Physiology</td>
<td>5</td>
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<tr>
<td>MIC 527</td>
<td>Industrial and Fermentation Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>MIC 528</td>
<td>Fermentation Microbiology Laboratory</td>
<td>2</td>
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<tr>
<td>MIC 534</td>
<td>Aquatic Microbial Ecology</td>
<td>3</td>
</tr>
<tr>
<td>MIC 540</td>
<td>Bioinformatics</td>
<td>2</td>
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<tr>
<td>MIC 542</td>
<td>Plant Microbe Interactions</td>
<td>3</td>
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<tr>
<td>MIC 554</td>
<td>Mechanisms of Microbial Pathogenicity</td>
<td>2</td>
</tr>
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<td>MIC 555</td>
<td>Field and Laboratory Methods in Vector-Borne and Zoonotic Disease Research</td>
<td>3</td>
</tr>
<tr>
<td>MIC 560</td>
<td>Symposium in Microbiology</td>
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<tr>
<td>MIC 714</td>
<td>Advanced Genetics</td>
<td>3</td>
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<tr>
<td>MIC 721</td>
<td>Directed Studies</td>
<td>1-2</td>
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<tr>
<td>MIC 730</td>
<td>Biodegradation and Bioremediation of Environmental Contaminants</td>
<td>2</td>
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<tr>
<td>MIC 753</td>
<td>Epidemiology of Infectious Disease</td>
<td>2</td>
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<td>MIC 755</td>
<td>Advanced Immunology</td>
<td>2</td>
</tr>
<tr>
<td>MIC 799</td>
<td>Research: Master’s Thesis</td>
<td>1-6</td>
</tr>
</tbody>
</table>

Total Credits: 30

**Degree requirements**

**Biology graduate student requirements**

All graduate students in biology must meet the following requirements:

1. Prior to registration each semester, the student must consult with the major advisor.
2. Submit a written thesis or seminar paper proposal to the advisory committee prior to the mid-term of the second semester of residence. CRNA students are exempt from this requirement and are not required to complete a thesis or seminar paper as part of the degree program.
3. Enroll in BIO 751 Graduate Seminar (1 cr.) or MIC 751 Graduate Seminar (1 cr.), Graduate Seminar, during the first four semesters of residence. Two of the semesters must be taken for one credit each; the other two semesters will be taken on an audit (no credit) basis. CRNA students are exempt from this requirement.
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5. Students are encouraged to complete an appropriate graduate course (numbers 500 and above) from outside the departments of biology and microbiology. Upon approval of a student’s advisory committee, a student may be permitted to take a maximum of 10 graduate credits in other departments.
6. Pass a preliminary oral examination covering the student's area of specialty and advanced course work.
7. Complete at least 15 credits of 700-level course work.
8. Consult this catalog and the department's graduate student guidelines for additional policies pertaining to graduate students in a biology program.

**Graduate degree requirements**

After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residency requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
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7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

**Biology: Nurse Anesthesia Concentration - Master of Science**

This concentration is jointly offered by the Department of Biology and Franciscan Skemp Healthcare, La Crosse, Wisconsin. Students simultaneously complete requirements for the Master of Science degree in biology and educational requirements to become a Certified Registered Nurse Anesthetist (CRNA).
Program requirements
This concentration requires:

1. Passing an oral comprehensive exam
2. Completion of the core curriculum of 31 credits
3. Completion of a research project.

Admission
Candidates for this concentration must apply separately to, and be accepted by, the Franciscan Skemp Healthcare School of Anesthesia.

CRNA curriculum

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIO 509</td>
<td>Human Gross Anatomy</td>
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</tr>
<tr>
<td>BIO 510</td>
<td>Applied Human Gross Anatomy</td>
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</tr>
<tr>
<td>BIO 524</td>
<td>Human Endocrinology</td>
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<td>BIO 715</td>
<td>Pathophysiology I</td>
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<td>BIO 717</td>
<td>Pathophysiology II</td>
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<td>BIO 718</td>
<td>Advanced Human Physiology I</td>
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<tr>
<td>BIO 719</td>
<td>Advanced Human Physiology II</td>
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</tr>
<tr>
<td>BIO 720</td>
<td>Research in Anesthesia</td>
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<tr>
<td>CHM 530</td>
<td>Chemistry in the Health Sciences</td>
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</tr>
<tr>
<td>ESS 782</td>
<td>Electrocardiography</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total Credits</td>
<td>31</td>
</tr>
</tbody>
</table>

Degree requirements
Graduate degree requirements
After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

Biology: Physiology Concentration - Master of Science

Program requirements
This concentration requires:

1. Completion of a research thesis in an area of animal physiology.
2. Passing an oral comprehensive exam, and
3. Completion of 30 credits with at least 15 credits from the following list; remaining credits are to be selected by the student and the advisory committee.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIO 524</td>
<td>Human Endocrinology</td>
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</tr>
<tr>
<td>BIO 528</td>
<td>Advanced Nutrition for the Health Professions</td>
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</tr>
<tr>
<td>BIO 532</td>
<td>Biology of Cancer</td>
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<tr>
<td>BIO 535</td>
<td>Molecular Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 536</td>
<td>Molecular Biology Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>BIO 558</td>
<td>Comparative Animal Physiology</td>
<td>4</td>
</tr>
<tr>
<td>BIO 565</td>
<td>Neurophysiology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 567</td>
<td>Neurobiology Laboratory Techniques</td>
<td>2</td>
</tr>
<tr>
<td>BIO 718</td>
<td>Advanced Human Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>BIO 719</td>
<td>Advanced Human Physiology II</td>
<td>4</td>
</tr>
<tr>
<td>BIO 799</td>
<td>Research: Master's Thesis</td>
<td>1-6</td>
</tr>
<tr>
<td></td>
<td>Total credits</td>
<td>30</td>
</tr>
</tbody>
</table>

With the approval of the student's advisory committee, other courses may be substituted for those listed.

Biology graduate student requirements
All graduate students in biology must meet the following requirements:

1. Prior to registration each semester, the student must consult with the major advisor.
2. Submit a written thesis or seminar paper proposal to the advisory committee prior to the mid-term of the second semester of residence. CRNA students are exempt from this requirement and are not required to complete a thesis or seminar paper as part of the degree program.
3. Enroll in BIO 751 Graduate Seminar (1 cr.) or MIC 751 Graduate Seminar (1 cr.), Graduate Seminar, during the first four semesters of residence. Two of the semesters must be taken for one credit each; the other two semesters will be taken on an audit (no credit) basis. CRNA students are exempt from this requirement.
4. Students who are on campus, utilizing university staff and/or facilities must enroll for a minimum of two credit hours per term, including fall or spring semester and summer sessions.
5. Students are encouraged to complete an appropriate graduate course (numbers 500 and above) from outside the departments of biology and microbiology. Upon approval of a student's advisory committee, a student may be permitted to take a maximum of 10 graduate credits in other departments.
6. Pass a preliminary oral examination covering the student's area of specialty and advanced course work.
7. Complete at least 15 credits of 700-level course work.
8. Consult this catalog and the department’s graduate student guidelines for additional policies pertaining to graduate students in a biology program.

Graduate degree requirements

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)
CBA - Business Administration
Graduate Program

Master of Business Administration Program
Director: Mark Huesmann
339H Wimberly Hall, 608.785.5292
Email: mhuesmann@uwlax.edu

http://www.uwlax.edu/cba/graduate-program-mba-program/

The College of Business Administration is a professional college that is dedicated to the development of its students. The college’s Master of Business Administration Program (MBA) provides students with an integrated business education preparing them for successful careers. The program is accredited by AACSB International, the Association to Advance Collegiate Schools of Business International. AACSB International accreditation represents the highest standard of achievement for business schools worldwide.

The overall objective of the program is to prepare graduates for positions of leadership in business and public administration. The program also prepares students for entry into doctoral level study. The curriculum challenges students to think critically about business issues and problems and is organized around three themes: changing technological environments, globalization, and social and environmental responsibility. The program has been designed to enhance students’ critical and analytical problem solving and decision-making capabilities.

The evening program is suitable both for part-time and full-time students and is open to all qualified students regardless of undergraduate areas of study. The program consists of two phases:

1. A foundation phase and
2. The MBA phase.

Students who do not possess an undergraduate business degree may be required to complete all or part of the foundation phase as part of their program of study. Foundation courses are available on campus or through an accelerated format via the Internet.

Students who are not required to complete foundation courses will be enrolled directly in the MBA phase. In addition to the on-campus required and elective course offerings, electives also are available via the Internet. The entire program of study generally can be completed within one to two years of full-time study. Completion in one year requires a careful selection of required and elective courses and enrollment in one summer session. More information can be obtained online through the Master of Business Administration Program (http://www.uwlax.edu/CBA/Graduate-Program-MBA-Program)’s site.

MBA course enrollment restriction policy

Enrollment in MBA courses is restricted to students in the MBA program, unless given special permission by the program director. Graduate students from other programs could be permitted to take, at most, six credits of 500/600/700 level MBA courses.

2016-17 Faculty/Staff

The following is the graduate faculty and staff as of the publication date of this catalog. This list will not be updated again until the next catalog is published in June.

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Email: tbrooks@uwlax.edu

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Email: jmurray@uwlax.edu

Vivek Pande, JD
Accountancy Department
Office: 223C Wimberly Hall
Phone: 608.785.6833
Email: vpande@uwlax.edu

Assistant Professor

Nilakshi Borah, Ph.D.
on a 4.00 scale and demonstrate the ability to successfully complete the MBA program. Performance on the GMAT and prior academic work will be used as indicators of ability. International students are required to take the Test of English as a Foreign Language (TOEFL) or its equivalent and submit their scores for evaluation. Applicants who meet the minimum standards may be denied admission because of enrollment limitations. While not required, 3-4 years of work experience is preferred.

**Satisfactory progress**
A 3.00 GPA in courses counting toward the MBA is required for graduation. Students must be able to achieve this GPA in, at most, 36 credits or they will be dropped from the program. A student earning a "D" or "F" in a graduate level course, whether it has been taken on this campus or at another university, will be dropped from the program. A maximum of six credits of "C" may be applied to the MBA.

**MBA course enrollment restriction policy**
Enrollment in MBA courses is restricted to students in the MBA program, unless given special permission by the program director. Graduate students from other programs could be permitted to take, at most, six credits of 500/600/700 level MBA courses.

**Curriculum**
The MBA program has two phases for qualified applicants with foundation course deficiencies, the foundation phase and the MBA phase. Such applicants will be admitted to the program while they complete their remaining foundation course work. Students who are not required to complete foundation courses will be enrolled directly in the MBA phase.

**Foundation Phase**

<table>
<thead>
<tr>
<th>Foundation courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 110 &amp; ECO 120 Microeconomics and Public Policy and Global Macroeconomics</td>
<td>2-6</td>
</tr>
<tr>
<td>ECO 703 &amp; ECO 704 Foundations of Microeconomics and Foundations of Macroeconomics</td>
<td></td>
</tr>
<tr>
<td>ACC 221 Accounting Principles I &amp; ACC 222 Accounting Principles II</td>
<td>6</td>
</tr>
<tr>
<td>ACC 703 Accounting for Business Decisions &amp; ACC 704 Accounting for Management Decisions</td>
<td></td>
</tr>
<tr>
<td>Additional foundation courses:</td>
<td></td>
</tr>
<tr>
<td>MKT 309 Principles of Marketing</td>
<td>2-3</td>
</tr>
<tr>
<td>or MKT 700 Marketing Principles</td>
<td></td>
</tr>
<tr>
<td>FIN 355 Principles of Financial Management</td>
<td>2-3</td>
</tr>
<tr>
<td>or FIN 701 Foundations of Managerial Finance</td>
<td></td>
</tr>
<tr>
<td>MGT 393 Production and Operations Management</td>
<td>2-3</td>
</tr>
<tr>
<td>or MGT 702 Operations Foundation</td>
<td></td>
</tr>
<tr>
<td>MGT 308 Behavior and Theory in Organizations</td>
<td>2-3</td>
</tr>
<tr>
<td>or MGT 703 Organizational Behavior</td>
<td></td>
</tr>
<tr>
<td>IS 220 Information Systems for Business Management</td>
<td>4</td>
</tr>
<tr>
<td>MTH 145 Elementary Statistics</td>
<td>2-4</td>
</tr>
<tr>
<td>or BUS 710 Statistical Analysis Foundations</td>
<td></td>
</tr>
<tr>
<td>Total Credits</td>
<td>22-32</td>
</tr>
</tbody>
</table>
A minimum grade of "C" is required in all foundation courses completed pre- or post-baccalaureate. 700-level foundation courses are taught online. Students completing foundation courses post-baccalaureate must achieve a minimum GPA of 3.00. Students who earn less than a "C" grade in any foundation course will be dropped from the program.

Internet courses are delivered in an accelerated format that may allow completion of the foundation program in one calendar year. Credit by exam (test out) is available for some foundation courses. Information should be obtained from the MBA Program Director.

**MBA phase**

Qualified applicants who have completed the foundation courses are admitted to the graduate degree requirement phase. Course requirements for the degree are listed below.

### MBA requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 730</td>
<td>Decision Framing and Decision Making in Complex Environments</td>
<td>3</td>
</tr>
<tr>
<td>BUS 731</td>
<td>Decision Making and Framing for Managing &amp; Leading People in Organizations</td>
<td>3</td>
</tr>
<tr>
<td>BUS 735</td>
<td>Business Decision Making and Research Methodology</td>
<td>4</td>
</tr>
<tr>
<td>BUS 750</td>
<td>Business Law, Ethics, and Social Responsibility</td>
<td>3</td>
</tr>
<tr>
<td>BUS 755</td>
<td>Managing in a Changing Technological Environment</td>
<td>3</td>
</tr>
<tr>
<td>BUS 760</td>
<td>Managing in a Global Environment</td>
<td>4</td>
</tr>
<tr>
<td>BUS 790</td>
<td>MBA Program Assessment</td>
<td>1</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

**Total Credits** 30

1 Elective credits must be selected from course work approved by the MBA Program Director. Several options are available for students to complete the elective credit requirement. These options include:
- MBA elective course work from UW-La Crosse or other institutions with the approval of the MBA Program Director.
- Directed internship experience (maximum six credits)
- Directed independent study (maximum three credits)
- Research: master’s thesis (maximum six credits)

*All students must complete at least six elective credits at the 700 level.*

### Degree requirements

#### Graduate degree requirements

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines, see the Office of Graduate Studies.
6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)
CS - Software Engineering Graduate Program

Master of Software Engineering
Director: Kasilingam Periyasamy
222 Wing Technology Center; 608.785.6823
Email: kperiyasamy@uwlaus.edu (kperiyasamy@uwlaus.edu)

http://www.cs.uwlax.edu/index.php/graduate-program

The focus of the Master of Software Engineering (MSE) Program is to teach the advanced state-of-the-art technologies in software development with hands-on experience, and to apply the knowledge to some challenging real-world problems. The program will guide the students to acquire both technical skills and software project management skills that are required to lead and to carry out software development projects.

2016-17 Faculty/Staff

The following is the graduate faculty and staff as of the publication date of this catalog. This list will not be updated again until the next catalog is published in June.

Professor
Kenny Hunt
Kasilingam Periyasamy
David Riley
Steven Senger

Associate Professor
Martin Allen
Thomas Gendreau
Mao Zheng

Assistant Professor
Samantha Foley
Elliott Forbes
John Maraist
Allison Sauppé
Jason Sauppe
Brad Shutters

Administrative Support
Becky Yoshizumi

Master of Software Engineering Program requirements

Admission

Prerequisite requirements
The students who wish to gain admission into the MSE Program should have taken courses on the following topics or should have knowledge in these areas (evidence or supporting materials required):

1. A modern programming language such as C++, Java, Eiffel, C#, or Smalltalk (UW-L equivalents: CS 120, CS 220, and CS 224)
2. Data structures and algorithms that include abstract data types such as List, Stack, Queue, Tree, and Graph (UW-L equivalent: CS 340)
3. Discrete mathematics that includes topics on set theory, predicate logic, functions, and relations (UW-L equivalent: MTH 225)

Students who lack any of these prerequisites must take additional courses (not counted for credit toward the MSE Program) to meet the prerequisites requirement. A cumulative grade point average (GPA) of 2.85/4.0 is required in these courses. This restriction on GPA for the prerequisite courses has been imposed to ensure that the students have adequate background in software development. In particular, non-computer science students may also be admitted into the MSE Program (see the admission requirements below) and hence a thorough knowledge of the topics covered in the prerequisite courses is necessary.

Other requirements for admission
In addition to the prerequisites identified above, each student also must satisfy one of the following requirements:

1. The student must have a bachelor's degree in software engineering, computer science, computer engineering or an equivalent major, with an overall undergraduate grade point average (GPA) of at least 2.85/4.0 or a GPA of at least 3.0/4.0 in the last half of all undergraduate work or a GPA of at least 3.0/4.0 for no fewer than 12 semester credits of graduate study at another accredited graduate institution.

2. The student must have a bachelor's degree in any other discipline with an overall GPA of at least 2.85/4.0 or a GPA of at least 3.0/4.0 in the last half of all undergraduate work, and should at least have two years of working experience in software development. In this case, the student should provide at least two references from the work place. The referees should be able to comment on the knowledge and skills of the student in software development.

A dual degree option allows UW-L computer science students to apply for admission to the Master of Software Engineering Program before completion of their undergraduate degree. Students seeking this option must consult an adviser early in their academic career to qualify for the dual degree.

More information can be obtained online in the Department of Computer Science (http://www.cs.uwlax.edu).

Application deadline is May 1 of each year for fall semester and November 1 for spring semester.
Curriculum

Each student in the program should complete 24 credits of course work and 12 credits of project work. The course work consists of five core courses and three elective courses.

Core courses
- CS 546 Object-Oriented Software Development 3
- CS 741 Software Engineering Principles 3
- CS 742 Formal Methods in Software Development 3
- CS 743 Software Verification and Validation 3
- CS 744 Management Issues in Software Engineering 3

Elective courses
Select nine credits from the following: 9
- CS 502 Web Application Development
- CS 510 Free and Open Source Software Development
- CS 519 Topics in Computer Science
- CS 521 Programming Language Concepts
- CS 531 Introduction to Robotics
- CS 541 Operating System Concepts
- CS 542 Structures of Compilers
- CS 543 Topics in Operating Systems
- CS 549 Advances in Software Engineering
- CS 551 User Interface Design
- CS 552 Artificial Intelligence and Pattern Recognition
- CS 553 Introduction to Theory of Computation
- CS 554 Digital Image Processing
- CS 555 Fundamentals of Information Security
- CS 556 Secure Software Development
- CS 564 Advanced Database Management Systems
- CS 570 Parallel and Distributed Computing
- CS 571 Data Communications
- CS 572 Internet of Things
- CS 750 Topics in Software Engineering
- CS 756 Data Visualization
- CS 751 Seminar in Software Engineering
- CS 752 Independent Study

Capstone project work
- CS 798 Software Development Project (take at least two semesters, maximum of six per semester) 12

Total Credits 36

CS 798 Software Development Project (1-6 cr.) is a 12-credit course involving a major software development project and requires the development of software for a particular application. Upon registering for this course, a student should choose a problem, analyze its feasibility in terms of time limits and resources, develop the requirements document and design (architectural and detailed) document, implement the design and demonstrate the product with appropriate test cases. A project proposal must be submitted to the Project Evaluation Committee (PEC) in the Department of Computer Science for approval before starting the project. This proposal should include the goals, project plan, time schedule, resource requirements and other details pertinent to the project. A student can register for the project course at any time after completing at least three courses and continue to work on the project thereafter. Depending on the work done in each term, the student will be given appropriate number of credits per term as outlined in the project proposal. The project advisor (a member of the PEC) is responsible for checking the work proposed/done in each term and giving the appropriate number of credits.

At the completion of the project, the student should submit a written project report that satisfies the requirements stated in A Guide for Writing a Software Development Project Report (available from the Department of Computer Science). This report will be evaluated by PEC. After PEC has read the report, (normally within a month after submission), an oral examination will be conducted. Members of PEC and the project supervisors/advisers (stated below) will serve as the examiners for this oral examination. The student will be given a pass/fail grade for the course at the end of the oral examination.

The project will address a real-world problem and hence will be selected from anywhere outside the Department of Computer Science. The purpose of this project work is to apply the knowledge gained in the course work to a real-world problem. Project sponsors may be from other departments (academic and administrative) in the university or from industries. A faculty member in the Department of Computer Science and a supervisor in the unit from where the problem is chosen (another department or industry) will jointly supervise/guide the student. In the event of not being able to find a suitable project outside the Department of Computer Science, the student may seek a project given by one of the faculty members in the department. The same faculty will supervise/guide the student. The latter option provides an opportunity for students to conduct research in software engineering.

Degree requirements

Graduate degree requirements

After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersemester should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)
ESS - Clinical Exercise Physiology Graduate Program

Clinical Exercise Physiology Program
Director: John Porcari
141 Mitchell Hall, 608.785.8684
Email: jporcari@uwlax.edu

http://www.uwlax.edu/clinical-exercise-physiology-ms/

The Master of Science in Clinical Exercise Physiology Program is a 46-credit program that provides the theoretical, laboratory, research and clinical experiences necessary for a career in a cardiopulmonary rehabilitation setting. Each year’s class (15 students) entering the four-semester program - summer, fall, spring, summer - receives practical, hands-on experience in Phases I and II cardiac rehabilitation, as well as graded exercise testing, in cooperation with area hospitals and clinics.

In addition, students participate in the on-campus La Crosse Exercise and Health Program (LEHP), which provides adult fitness, Phases III and IV cardiac rehabilitation programming, and health and nutrition services to over 300 participants each week. The required internship - three months during the last semester - presents opportunities for further experience at a site of the student’s choosing. The completion of a thesis project is required before the student is allowed to begin the internship.

Degree candidates typically have an undergraduate degree in physical education, fitness, exercise science, or other allied health related fields such as biology, health education, nursing, or physical therapy. A minimum undergraduate grade point average of 3.00 is required for admission. Application deadline is February 1 of each year.

Graduates are prepared to:
- Conduct graded exercise tests
- Design exercise programs for healthy and diseased populations
- Organize and administer adult fitness, corporate fitness, and cardiopulmonary rehabilitation programs

Graduates are employed in:
- Colleges and universities
- Adult fitness centers (public, private, and corporate)
- Clinic, hospital, and “free standing” rehabilitation facilities
- Sports medicine centers

Graduate degree
- Clinical exercise physiology - MS (p. 48)

Clinical Exercise Physiology - Master of Science
Program requirements

Admission
Degree candidates typically have an undergraduate degree in physical education, fitness, exercise science, or other allied health related fields such as biology, health education, nursing, or physical therapy. A minimum undergraduate grade point average of 3.00 is required for admission. Application deadline is February 1 of each year.

Prerequisites or their equivalent for admission into the program are:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESS 205</td>
<td>Human Anatomy and Physiology for Exercise I</td>
<td>3</td>
</tr>
<tr>
<td>ESS 206</td>
<td>Human Anatomy and Physiology for Exercise II</td>
<td>3</td>
</tr>
<tr>
<td>ESS 281</td>
<td>Prevention and Care of Athletic Injuries</td>
<td>2</td>
</tr>
<tr>
<td>ESS 302</td>
<td>Physiology of Exercise</td>
<td>3</td>
</tr>
</tbody>
</table>

Curriculum

Category A - Research (12 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESS 730</td>
<td>Research Methods for Exercise and Sport Science</td>
<td>3</td>
</tr>
<tr>
<td>ESS 735</td>
<td>Statistics for Exercise and Sport Science</td>
<td>3</td>
</tr>
<tr>
<td>ESS 799</td>
<td>Research: Master’s Thesis</td>
<td>6</td>
</tr>
</tbody>
</table>

Category B - Core requirements (31 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESS 744</td>
<td>Lab Techniques in Clinical Exercise Physiology</td>
<td>3</td>
</tr>
<tr>
<td>ESS 770</td>
<td>Physiology of Activity</td>
<td>3</td>
</tr>
<tr>
<td>ESS 774</td>
<td>Clinical in Phase I and Phase II Cardiac Rehabilitation</td>
<td>2</td>
</tr>
<tr>
<td>ESS 776</td>
<td>Clinical in Adult Fitness/Phase III Cardiac Rehabilitation (taken three times)</td>
<td>9</td>
</tr>
<tr>
<td>ESS 780</td>
<td>Philosophy and Organization of Preventive and Rehabilitative Programs</td>
<td>2</td>
</tr>
<tr>
<td>ESS 782</td>
<td>Electrocardiography</td>
<td>3</td>
</tr>
<tr>
<td>ESS 783</td>
<td>Graded Exercise Testing and Exercise Prescription</td>
<td>3</td>
</tr>
<tr>
<td>ESS 784</td>
<td>Advanced Cardiovascular Physiology</td>
<td>3</td>
</tr>
<tr>
<td>ESS 785</td>
<td>Internship: Clinical Exercise Physiology</td>
<td>5</td>
</tr>
<tr>
<td>ESS 786</td>
<td>Advanced Cardiac Life Support (ACLS)</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Credits: 46

Degree requirements

Graduate degree requirements

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.

7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.

8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

Sample degree plan

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer</td>
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<tr>
<td>ESS 776</td>
<td>3 ESS 770</td>
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<tr>
<td>ESS 782</td>
<td>3 ESS 744</td>
</tr>
<tr>
<td>ESS 730</td>
<td>3 ESS 735</td>
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<td>ESS 774</td>
<td>2 ESS 776</td>
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<td>ESS 799</td>
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<table>
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<th>Year 2</th>
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<tbody>
<tr>
<td>Summer</td>
<td>ESS 785</td>
</tr>
</tbody>
</table>

Total Credits: 46
ESS - Exercise and Sport Science: Human Performance Graduate Program

Exercise and Sport Science - Human Performance Program
Director: Glenn Wright
137 Mitchell Hall, 608.785.8689
Email: gwright@uwlex.edu

http://www.uwlax.edu/human-performance-ms/

The Master of Science in Exercise and Sport Science: Human Performance Program is an interdisciplinary program of study for those interested in learning and applying scientific principles to training of physically active individuals and athletes at all levels (e.g. recreational, high school, college, professional). Areas of study include physiology, biomechanics, and motor learning.

Students in human performance choose an emphasis in applied sport science or strength and conditioning. Students select a thesis option (32 credits) or a non-thesis (32 credits). Students choosing the non-thesis option must successfully complete written comprehensive examinations at the end of the program. At least one-half of the credits must be earned at the 700 level.

Students interested in studying the responses and adaptations to the training of athletes, pursuing a career as a sport coach or strength and conditioning coach, or working in fitness/athletic enhancement centers are encouraged to apply to this graduate program.

Graduate preparation goals:

- Serve as head or assistant strength and conditioning coach for high school, DI, DII or DIII university sports or professional and semi-professional sports.
- Prepare sport coaches to apply sport science to their training programs.
- Serve as fitness professional in health club, fitness facility or corporate fitness facility
- Pursue a doctoral degree and career as an exercise scientist (teaching and research at the university level)

Application deadline is February 1 of each year for fall semester.

Graduate Record Exam (GRE) scores required
ESS 205 Human Anatomy and Physiology for Exercise Science I 3
ESS 206 Human Anatomy and Physiology for Exercise Science II 3
ESS 302 Physiology of Exercise 3
ESS 303 Biomechanics 2-3

Curriculum

32 credits

CATEGORY A - RESEARCH

· Thesis option
ESS 730 Research Methods for Exercise and Sport Science 3
ESS 735 Statistics for Exercise and Sport Science 3
ESS 799 Research: Master's Thesis 6
Total Credits 12

· Non-thesis option
ESS 730 Research Methods for Exercise and Sport Science 3
ESS 735 Statistics for Exercise and Sport Science 3
Total Credits 6

CATEGORY B - CORE REQUIREMENTS

ESS 750 Mechanics and Analysis of Movement 3
ESS 767 Applied Physiology of Endurance Performance 3
ESS 768 The Psychomotor Basis of Skill Performance 3
Select one of the following: 2-3
ESS 761 Lab Techniques in Human Performance-Biomechanics
ESS 762 Lab Techniques in Human Performance-Exercise Physiology
ESS 763 Lab Techniques/Human Performance-Motor Learning
Total Credits 11-12

CATEGORY C - ELECTIVE

Other courses may be selected with consent of program director.

Thesis Option: 8-9 credits
Non-thesis Option: 14-15 credits

ESS 545 Facility Management in Sport 3
ESS 560 Exercise Science Clinical Forum (6 credits max.) 1-3
ESS 739 Sport Law 3
ESS 747 Advanced Principles of Athletic Performance Enhancement 3
ESS 748 Sports Performance Practicum 3
ESS 749 Psychological Aspects of Sports 3
ESS 766 Sport and Society 3
ESS 769 Application of Muscle Physiology to Strength/Power Training 3
ESS 784 Advanced Cardiovascular Physiology 3
ESS 789 Internship: Human Performance 3
ESS 794 Readings in Sports Psychology 1-3
ESS 795 Independent Study (1-3 credits, 6 max.) 1-3
ESS 796  Readings in Biomechanics 1  1-3
ESS 797  Readings in Exercise Physiology 1  1-3
ESS 798  Readings in Motor Learning 1  1-3
BIO 524  Human Endocrinology  3
BIO 535  Molecular Biology  3
BIO 565  Neurophysiology  3
BIO 718  Advanced Human Physiology I  4
BIO 719  Advanced Human Physiology II  4
1 Total combined credits for all reading classes may be no greater than three.

Degree requirements
Graduate degree requirements
After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
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7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

ESS: Human Performance - Strength and Conditioning Emphasis - Master of Science
Program requirements
Admission
Prerequisite courses (or equivalent) and requirements for admission:

Graduate Record Exam (GRE) scores required
ESS 205  Human Anatomy and Physiology for Exercise Science I  3
ESS 206  Human Anatomy and Physiology for Exercise Science II  3
ESS 302  Physiology of Exercise  3
ESS 303  Biomechanics  2-3
ESS 368  Strength Training Techniques and Programs 1  3
1 Or undergraduate internship in related area. Two letters of recommendation, Certified Strength Conditioning Specialist (CSCS) preferred.

Curriculum
32 credits

CATEGORY A - RESEARCH
· Thesis option
ESS 730  Research Methods for Exercise and Sport Science  3
ESS 735  Statistics for Exercise and Sport Science  3
ESS 799  Research: Master's Thesis  6
Total Credits  12

· Non-thesis option
ESS 730  Research Methods for Exercise and Sport Science  3
ESS 735  Statistics for Exercise and Sport Science  3
Total Credits  6

CATEGORY B - CORE REQUIREMENTS
ESS 747  Advanced Principles of Athletic Performance Enhancement  3
ESS 748  Sports Performance Practicum  3
ESS 750  Mechanics and Analysis of Movement  3
ESS 767  Applied Physiology of Endurance Performance  3
ESS 768  The Psychomotor Basis of Skill Performance  3
ESS 769  Application of Muscle Physiology to Strength/Power Training  3
ESS 789  Internship: Human Performance  3
Total Credits  21

CATEGORY C - ELECTIVES
Other courses may be selected with consent of program director.
Thesis Option: 0 credits required
Non-Thesis Option: 5 credits minimum
ESS 545  Facility Management in Sport  3
ESS 560  Exercise Science Clinical Forum (6 max)  1-3
ESS 702  Sport Administration  3
ESS 738  Financial Management for Sport Programs  3
ESS 739  Sport Law  3
ESS 749  Psychological Aspects of Sports  3
ESS 754  Sport Marketing  3
ESS 760  Issues in Sport Management  3
ESS 766  Sport and Society  3
ESS 795  Independent Study  1-3
Degree requirements

Graduate degree requirements

After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
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8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)
ESS - Exercise and Sport Science: Physical Education Teaching Graduate Program

Exercise and Sport Science: Physical Education Teaching Program
Director: Jooyeon Jin
161 Mitchell Hall; 608.785.8182
Email: jjin@uwlax.edu

Exercise and Sport Science: Physical Education Teaching with Adapted Physical Education Emphasis
Director: Garth Tymeson
131 Mitchell Hall; 608.785.5415
Email: gtymeson@uwlax.edu

Exercise and Sport Science: Physical Education Teaching with Adventure/Outdoor Pursuits Emphasis
Director: Matt Maurer
219 Mitchell Hall; 608.785.6535
Email:mmaurer@uwlax.edu

http://www.uwlax.edu/physical-education-teaching-ms/

The Physical Education Teaching Program is designed as a practitioner-oriented program for physical education teaching professionals seeking additional qualifications and expertise in areas such as teaching methods and styles, new and innovative curricular design, analysis of effective teaching, supervision, adventure, adapted physical education, and outdoor education.

Students select either the thesis option (36 credits) or non-thesis option (33-36 credits). Students choosing the non-thesis option must apply for and successfully complete comprehensive written exams in the department of exercise and sport science. Within the PE teaching degree program, students must also select among the following:

1. Electives related to the field of teaching,
2. Adapted physical education emphasis, or
3. Adventure/outdoor pursuits emphasis.

All elective credits selected by the student must be approved by the program director. Additional course work may be required based on previously completed undergraduate courses.

The physical education teaching program does not result in a K-12 teaching certificate.

Graduate degrees

- Exercise and sport science: physical education teaching - MS (p. 56)
- Exercise and sport science: physical education teaching - MS: adapted physical education emphasis (p. 53)
- Exercise and sport science: physical education teaching - MS: adventure/outdoor pursuits emphasis (p. 55)

ESS: Physical Education Teaching - Adapted Physical Education Emphasis - Master of Science

Director: Garth Tymeson
131 Mitchell Hall; 608.785.5415
Email: gtymeson@uwlax.edu

http://www.uwlax.edu/physical-education-teaching-ms/adaptive-physical-education-graduate-study/

Persons seeking graduate level adapted physical education (APE) professional development can pursue the Master of Science degree in physical education teaching with an emphasis in teaching APE. This is a practitioner oriented program for teachers seeking additional expertise, evidence-based content knowledge, technology skills, and clinical experiences in physical education for PK-12 students with disabilities in general and/or specially designed physical education classes.

Students who successfully complete this graduate program are eligible for the Wisconsin add-on teaching license in APE (WI EC-A #860). Graduates of the program are primarily hired by school districts as adapted and/or general physical education teachers. These teachers are often employed as itinerant (traveling) APE specialists within a district and may teach students from grades PK-12 in several schools. Graduates are hired throughout the United States to serve as APE instructional leaders for school districts.

Roles commonly performed in school districts by these APE professionals include:

- Teaching at early childhood, elementary, middle, and secondary levels
- Serving as itinerant or traveling APE teachers at several schools within a school district
- Collaborating with special education and related service personnel
- Teaching students with disabilities in one-on-one, small group, or large group classes
- Preparing paraprofessionals/teaching assistants for supervised APE instruction
- Consulting with general physical education teachers and special education staff
- Team teaching in inclusive settings while assisting general physical education teachers
- Assessing physical and motor development for IEP planning and implementation
- Designing and monitoring measurable IEP goals and objectives
- Using evidence-based teaching strategies, including instructional technologies
- Transitioning students from school-based to community-based instruction leading to healthy and active lifestyles
- Coaching school and community-based sport programs for students with and without disabilities

Some graduates of this program progress to full-time doctoral study at institutions such as Oregon State University, University of Virginia, University of Michigan, Texas Woman’s University, Ohio State University, and others that specialize in disability related fields. UW-La Crosse
graduates from the APE program are faculty at many of the leading higher education institutions that prepare physical education teachers for students with disabilities.

The APE graduate program can be completed while students are enrolled either full-time or on a part-time basis. There is much flexibility for currently employed teachers who only desire additional certification, not a graduate degree. The purpose of the certification-only program is to assist general physical education teachers to acquire the knowledge and skills to become highly qualified and effective APE specialists and enable them to be eligible for Wisconsin APE teaching licensure. This certification-only program can be completed in 2-3 summers and during the academic year depending on course loads and course availability. Clinical experiences are part of this program.

The Center on Disability Health and Adapted Physical Activity (http://www.uwlax.edu/cdhapa) (Center) is a focal point of the APE teacher preparation program. One of only five centers at UW-La Crosse, the Center implements many on-campus and community-based physical activity programs for individuals with disabilities of all ages. A primary mission of the Center is to conduct a variety of physical activity/education programs serving children, youth, and adults with disabilities. Opportunities to enhance teaching competencies and gain advanced leadership skills are afforded to future APE professionals. The Center serves as a resource for parents, school districts, human service agencies, and local and state agencies, as well as national organizations focusing on physical activity and health for individuals with disabilities. Examples of programs include: Children’s Motor Development Program; Physical Activity Mentoring Program; Adult Fitness Program; Adapted Aquatic Program; and Adapted Sport Programs.

Financial assistance is generally available each year for qualified students who pursue their graduate degree on a full-time basis. Assistance is usually in the form of graduate assistantships and/or fellowships that may include a stipend, tuition assistance for resident and nonresident students, fringe benefits, an office on campus, school-based teaching with an APE teacher mentor, and opportunities to work alongside faculty in teaching, research, service, and professional development.

Program requirements

Admission

Prerequisites or equivalents are:

1. Undergraduate major/minor in physical education and/or sport science/management from an accredited four-year institution.
2. Documented course work in the following areas:
   - Anatomy/physiology
   - Measurement and evaluation in physical education
   - Adapted physical education
   - Motor development/behavior/child development

Curriculum

36 credits

**CATEGORY A - RESEARCH**

· Thesis option

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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ESS 730</td>
<td>Research Methods for Exercise and Sport Science</td>
<td>3</td>
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<tr>
<td>ESS 735</td>
<td>Statistics for Exercise and Sport Science</td>
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<th>Course</th>
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<tbody>
<tr>
<td>ESS 799</td>
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Total Credits 12

· Non-thesis option

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<td>ESS 536</td>
<td>Assessment and Program Evaluation in Adapted Physical Education</td>
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<td>ESS 736</td>
<td>Critical Analysis Project: Adapted Physical Education</td>
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Total Credits 9

**CATEGORY B - CORE REQUIREMENTS**

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<td>Diversity in the Physical Activity Setting</td>
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<td>ESS 727</td>
<td>Planning for Effective Instruction in Physical Education</td>
<td>2</td>
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<tr>
<td>ESS 737</td>
<td>Curriculum Design in Physical Education</td>
<td>2</td>
</tr>
<tr>
<td>ESS 759</td>
<td>Analysis and Supervision of Physical Education</td>
<td>3</td>
</tr>
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<td>ESS 765</td>
<td>Adventure Education for Physical Educators</td>
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<tr>
<td>ESS 771</td>
<td>Current Issues in Physical Education</td>
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Total Credits 14

**CATEGORY C - ADAPTED PHYSICAL EDUCATION TEACHING REQUIREMENTS**

Thesis option: 10 credits
Non-thesis option: 13 credits

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<td>ESS 530</td>
<td>Disability and Physical Activity Implications</td>
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<tr>
<td>ESS 535</td>
<td>Sports for Persons with Disabilities</td>
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<tr>
<td>ESS 537</td>
<td>Teaching and Service Delivery Models in Adapted Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>ESS 787</td>
<td>Clinical Internship in Adapted Physical Education</td>
<td>3</td>
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</table>

Elective (required for non-thesis option only) 3

1 Consult with program director for appropriate coursework.

Degree requirements

Graduate degree requirements

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
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ESS: Physical Education Teaching - Adventure/Outdoor Pursuits Emphasis - Master of Science

Program requirements

Admission

Prerequisites or equivalents are:

1. Undergraduate major/minor in physical education and/or sport science/management from an accredited four-year institution.
2. Documented course work in the following areas:
   - Anatomy/physiology
   - Measurement and evaluation in physical education
   - Adapted physical education
   - Motor development/behavior/child development

Curriculum

33 - 36 credits depending on research option

**CATEGORY A - RESEARCH**

- Thesis option

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<tr>
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<tr>
<td>ESS 799</td>
<td>Research: Master's Thesis</td>
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- Non-thesis option

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<tr>
<td>ESS 730</td>
<td>Research Methods for Exercise and Sport Science</td>
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<td>ESS 752</td>
<td>Assessment of Physical Education and Athletics</td>
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**CATEGORY B - CORE REQUIREMENTS**

<table>
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<tr>
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<th>Course</th>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ESS 771</td>
<td>Current Issues in Physical Education</td>
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<tr>
<td>Total Credits</td>
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**CATEGORY C - ELECTIVES**

<table>
<thead>
<tr>
<th>Thesis option: 10 credits</th>
<th>Non-thesis option: 13 credits</th>
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</thead>
<tbody>
<tr>
<td>ESS 745 Pedagogy of Outdoor Physical Education</td>
<td>3</td>
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<tr>
<td>ESS 777 Seminar in Adventure/Outdoor Physical Education</td>
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<td>ESS 778 Practicum in Adventure Education</td>
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<td>Select one of the following:</td>
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<tr>
<td>Electives thesis option (three credits)</td>
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</tr>
<tr>
<td>Electives non-thesis option (six credits)</td>
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<tr>
<td>Total Credits</td>
<td>10-13</td>
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</table>

1. Consult with program director for appropriate coursework.

Degree requirements

Graduate degree requirements

After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
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4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines ([http://www.uwlax.edu/Graduate-studies/Research/thesis-information](http://www.uwlax.edu/Graduate-studies/Research/thesis-information)), see the Office of Graduate Studies.

6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.

7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.

8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)
ESS: Physical Education Teaching - Master of Science

Program requirements

Admission Prerequisites

Prerequisites or equivalents are:

1. Undergraduate major/minor in physical education and/or sport science/management from an accredited four-year institution.
2. Documented course work in the following areas:
   • Anatomy/physiology
   • Measurement and evaluation in physical education
   • Adapted physical education
   • Motor development/behavior/child development

Curriculum

33 - 36 credits depending on research option

CATEGORY A - RESEARCH

• Thesis option

ESS 730  Research Methods for Exercise and Sport Science 3
ESS 735  Statistics for Exercise and Sport Science 3
ESS 799  Research: Master's Thesis 6

Total Credits 12

• Non-thesis option

ESS 730  Research Methods for Exercise and Sport Science 3
ESS 752  Assessment of Physical Education and Athletics 3

Written comprehensive exam required

Total Credits 6

CATEGORY B - CORE REQUIREMENTS

ESS 725  Diversity in the Physical Activity Setting 2
ESS 727  Planning for Effective Instruction in Physical Education 2
ESS 737  Curriculum Design in Physical Education 2
ESS 759  Analysis and Supervision of Physical Education 3
ESS 765  Adventure Education for Physical Educators 2-3
ESS 771  Current Issues in Physical Education 2-3

Total Credits 14

CATEGORY C - ELECTIVES

Thesis option: 10 credits
Non-thesis option: 13 elective credits

Elective courses must be related to the field of teaching. A student may select a variety of courses offered in exercise and sport science, health education, and educational studies departments. All electives must be pre-approved by the program director. Up to six credits of ESS 560 Exercise Science Clinical Forum will count toward this category.

At least half of the credits in the degree must be earned in 700 level courses.

Degree requirements

Graduate degree requirements

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
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7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)
HED - Health Education:
Community Health Education
Graduate Program

Community Health Education Program
Director: Gary Gilmore
201 Mitchell Hall; 608.785.8163
Email: ggilmore@uwla.edu

http://www.uwlax.edu/community-health-education/

The Master of Science in Community Health Education Program is designed to prepare individuals for employment in community health agencies.

Students must complete individually prescribed undergraduate course work to meet prerequisite requirements. Graduate students from other programs are not allowed to enroll in health education graduate courses unless departmental approval has been given. Graduate credit will not be awarded for any course in which undergraduate credit was received.

Graduate degree

- Health education - MS: community health education concentration (p. 57)

Health Education: Community Health Education Concentration - Master of Science

Program requirements

Admission requirements

The following requirements must be satisfied in order to be admitted into the Master of Science degree program in health education and health promotion.

1. Students must receive acceptance to graduate study in health education and health promotion from the graduate admissions office. The letter of acceptance from the graduate admissions office may include an evaluation of previous academic work including deficiencies and/or specific prerequisite program requirements.
2. Applicants must be granted unconditional admission to graduate study (a 2.85 GPA or above will satisfy grade point requirement), or must be admitted on probation to graduate study.
3. Students must complete deficiencies as determined by the respective health education and health promotion graduate faculty.

All deficiencies and/or special prerequisites must be satisfied before the student has accumulated 12 graduate credits. Students have the option of completing these requirements prior to attending the university or prior to the accumulation of 12 graduate credits.

Appeals

Any student denied admission into the master’s program may request a program admission review. A written request for review must be submitted to the health education and health promotion department chair. This request will be forwarded to an appeals committee for the review of the admission status.

Prerequisite competency requirements as determined by MS-CHE program director:

PH 340 and PH 498; and ESS 205 or BIO 312; and ESS 206 or BIO 313; and one or more of the following health-related sciences: CHM 100, CHM 103, CHM 417, BIO 100, BIO 105, MIC 100, MIC 130; and one of the following social and behavioral sciences: SOC 110, SOC 120, SOC 334, PSY 100, PSY 210, PSY 212, PSY 320, PSY 334, PSY 343, PSY 360; and one of the following statistics/research design: CHE 350, MTH 145, PSY 331, PSY 420, SOC 250.

Curriculum

Non-thesis Option (43 Credits)

Required courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HED 703</td>
<td>Foundations in Health Education</td>
<td>3</td>
</tr>
<tr>
<td>HED 706</td>
<td>Research Tools and Processes</td>
<td>6</td>
</tr>
<tr>
<td>HED 798</td>
<td>Graduate Project in Health Education</td>
<td>4</td>
</tr>
<tr>
<td>CHE 780</td>
<td>Community Health Education Preceptorship</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Total Credits</td>
<td>21</td>
</tr>
</tbody>
</table>

Each student will develop a program of study through advisement to meet individual needs and meet university requirements. The individualized program will include courses from each of the following core areas. A minimum of six credits will be taken in each area. Advising discussions with the program director will determine any course options that will count in the core areas, in addition to those indicated below.

Administration and program development core

Select minimum of six credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 566</td>
<td>Worksite Health Promotion</td>
<td></td>
</tr>
<tr>
<td>ESS 780</td>
<td>Philosophy and Organization of Preventive and Rehabilitative Programs</td>
<td></td>
</tr>
<tr>
<td>HED 577</td>
<td>Grant-Seeking in Health, Human Services, and Educational Professions</td>
<td></td>
</tr>
<tr>
<td>PH 720</td>
<td>Program Assessment, Planning, and Evaluation in Health Promotion</td>
<td></td>
</tr>
<tr>
<td>PH 790</td>
<td>Public Health Administration and Organization</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Credits</td>
<td>6</td>
</tr>
</tbody>
</table>

Health education processes and concepts core

Select minimum of six credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HED 567</td>
<td>Experiential Learning Strategies for Health Educ</td>
<td></td>
</tr>
<tr>
<td>HED 701</td>
<td>Contemporary Issues in Health Education</td>
<td></td>
</tr>
<tr>
<td>HED 770</td>
<td>Health Counseling</td>
<td></td>
</tr>
<tr>
<td>PH 755</td>
<td>Epidemiology and Public Health Issues</td>
<td></td>
</tr>
<tr>
<td>SHE 560</td>
<td>Health Promotion and Preference</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Credits</td>
<td>6</td>
</tr>
</tbody>
</table>

Health content and skills core

Select minimum of six credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 553</td>
<td>Cultural Issues in Health Ed: Ethnic, Racial, Religious, and Familial Groups</td>
<td></td>
</tr>
<tr>
<td>CHE 565</td>
<td>Health Education Marketing</td>
<td></td>
</tr>
<tr>
<td>HED 509</td>
<td>Stress Management and Relaxation Skills</td>
<td></td>
</tr>
<tr>
<td>HED 539</td>
<td>Teaching Stress Management and Relaxation Skills</td>
<td></td>
</tr>
<tr>
<td>HED 541</td>
<td>Human Disease Prevention and Control</td>
<td></td>
</tr>
<tr>
<td>HED 569</td>
<td>Drugs, Society, and Human Behavior</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Credits</td>
<td>6</td>
</tr>
</tbody>
</table>
HED 572  Sexual Health Promotion
HED 573  Health Aspects of Aging
HED 574  Nutrition Education
HED 586  Introduction to International Health
PH 707  Environmental Health

Total Credits 6

Minimum core credits: 18
Electives minimum: 4

Degree requirements

Graduate degree requirements

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
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7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)
**HED - Health Education: School Health Education Graduate Program**

School Health Education Program  
Director: Lori Reichel  
202 Mitchell Hall, 608.785.6787  
Email: lreichel@uw.lax.edu  
http://www.uwlax.edu/school-health-education/

The Master of Science in School Health Education Program is currently not accepting new students.

A graduate program leading to a Master of Science degree in health education is available through the graduate Community Health Education Program (p. 57).

**Graduate degree**

- Health education - MS: school health education concentration  
(p. 59)

**Health Education: School Health Education Concentration - Master of Science**

**The Master of Science in School Health Education Program is currently not accepting new students.**

The Master of Science degree in school health education prepares professionals for positions in schools as licensed health education teachers and coordinators. Graduates gain an overview of the content areas of health and an in-depth understanding of behavior change, leadership styles and strategies, learning theories, instructional methods and materials, and curriculum design.

Graduates are prepared to:

- Provide leadership in establishing and maintaining a healthy school environment
- Understand public policy related to school health programs
- Demonstrate effective public relations and leadership methods
- Understand functions of community agencies
- Assist other teachers in upgrading skills and knowledge
- Evaluate the teaching-learning process to determine health needs and interests, students' progress, and school health education success
- Conduct research and interpret the results of health-related research

Graduates are employed in:

- Public and private schools
- Regional education agencies
- State education agencies
- Public and private agencies
- And/or pursue further graduate education

**Program requirements**

**Admission requirements**

The following requirements must be satisfied in order to be admitted into the Master of Science degree program in health education and health promotion.

1. Students must receive acceptance to graduate study in health education and health promotion from the graduate admissions office. The letter of acceptance from the graduate admissions office may include an evaluation of previous academic work including deficiencies and/or specific prerequisite program requirements.
2. Applicants must be granted unconditional admission to graduate study (a 2.85 GPA or above will satisfy grade point requirement), or must be admitted on probation to graduate study.
3. Students must complete deficiencies as determined by the respective health education and health promotion graduate faculty.

All deficiencies and/or special prerequisites must be satisfied before the student has accumulated 12 graduate credits. Students have the option of completing these requirements prior to attending the university or prior to the accumulation of 12 graduate credits.

**Appeals**

Any student denied admission into the master's program may request a program admission review. A written request for review must be submitted to the health education and health promotion department chair. This request will be forwarded to an appeals committee for the review of the admission status.

**Curriculum**

**THESIS OPTION (32 credits)**

**Required courses:**

<table>
<thead>
<tr>
<th>Research core</th>
</tr>
</thead>
<tbody>
<tr>
<td>HED 706 Research Tools and Processes</td>
</tr>
<tr>
<td>HED 799 Research: Master's Thesis</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health core</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHE 710 Leadership in Health Education</td>
</tr>
<tr>
<td>SHE 715 Health Education Curriculum and Pedagogy</td>
</tr>
<tr>
<td>SHE 720 Health Issues of Youth &amp; Adults</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
</tr>
</tbody>
</table>

1. Students who do not have an undergraduate degree in health education also will be required to test out of or take SHE 705 Introduction to School Health Education (2 cr.).

**Elective courses:**

Minimum elective credits: 13 (11)

With an adviser's approval, elective courses are selected to develop a health education emphasis (i.e., curriculum content, health as a lifestyle, administration, or adventure education). A maximum of 12 credits may be taken outside the Health Education and Health Promotion Department. Students who are seeking state health education certification can select elective courses to meet Wisconsin Department of Public Instruction (DPI) requirements.
NON-THESIS OPTION (32 Credits)

Required courses:

<table>
<thead>
<tr>
<th>Research core</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HED 706 Research Tools and Processes</td>
<td>3</td>
</tr>
<tr>
<td>HED 798 Graduate Project in Health Education</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health core 1</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHE 710 Leadership in Health Education</td>
<td>3</td>
</tr>
<tr>
<td>SHE 715 Health Education Curriculum and Pedagogy</td>
<td>3</td>
</tr>
<tr>
<td>SHE 720 Health Issues of Youth &amp; Adults</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

1 Students who do not have an undergraduate degree in health education also will be required to test out of or take SHE 705 Introduction to School Health Education (2 cr.).

Elective courses:

Minimum elective credits: 16 (14)

With an adviser’s approval, elective courses are selected to develop a health education emphasis (i.e., curriculum content, health as a lifestyle, administration, or adventure education). A maximum of 12 credits may be taken outside the Health Education and Health Promotion Department. Students who are seeking state health education certification can select elective courses to meet Wisconsin Department of Public Instruction (DPI) requirements.

Degree requirements

Graduate degree requirements

After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
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7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)
The Master of Public Health in Community Health Education Program (MPH-CHE) prepares health and human service professionals to serve in various settings where community health education approaches are employed to improve health and well-being. This practitioner-oriented nationally accredited program addresses behavioral theory, communication and motivational processes, community intervention strategies, and evaluation procedures for community health promotion and primary prevention. As a culminating experience, students complete a thesis or graduate project in health education. One of two options is selected by the candidate: Option A, which includes a master’s thesis, or Option B, the non-thesis option. Each option requires the same core courses. Graduate students from other programs are not allowed to enroll in health education graduate courses unless departmental approval has been given. The first degree of its kind offered in the UW System, the MPH-CHE has been accredited by the Council on Education for Public Health since 1992.

Graduates are prepared to:

- Assess individual and community health needs
- Plan effective health education and health promotion programs
- Implement and evaluate educational experiences
- Coordinate and manage the provisions of health education services
- Serve as resource people in health education
- Communicate health and health education needs, concerns, and resources
- Conduct health education and promotion research
- Apply research principles and strategies in health education
- Manage and supervise health education programs in various settings
- Address public health issues

Graduates are employed in:

- Public health agencies
- Volunteer and private agencies
- Hospitals and other health care settings
- Local, state, and national governmental agencies
- Business and industrial settings

Graduate degree

- Master of Public Health in community health education - MPH

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Master of Public Health in Community Health Education

Program requirements

Admission

1. Students must complete the graduate admissions application form and specific MPH-CHE admission materials to be returned to the Admissions Office by February 15. Following review of the admissions materials by the departmental review committee, a letter of decision will be sent to the applicant.

2. Cumulative undergraduate grade point average (GPA) of not less than 3.00 based on a minimum of 60 final semester credits or a cumulative post-baccalaureate GPA of not less than 3.00 based on not less than nine semester credits as determined by the graduate program director in the Department of Health Education and Health Promotion.

3. A minimum Graduate Record Examination (GRE) score percentile at or above 70 for the general test scores for verbal and qualitative measures and a minimum of 3.5 for the analytical measure are strongly recommended.

4. Three current (within one year) letters of recommendation on the forms provided.

5. One letter of application and intent that details the student's:
   - Academic goals within the MPH program
   - Professional goals
   - Previous professional experiences
   - Reasons for selecting an MPH degree program (vs. Master of Science or other master’s degree)
   - Reasons for wanting to be a community health educator
   - Special interests within the field of community health education

6. A minimum of one year of voluntary or salaried post-baccalaureate work experience in one or more health or social service settings is strongly recommended.

7. A departmental review committee will assess all submitted materials, to include an interview when necessary. It is important to note that one’s acceptance or non-acceptance is based upon a comprehensive review of the above items and is not based solely on any particular element.

Prerequisite competency requirements as determined by MS-CHE program director:

PH 340 and PH 498; and ESS 205 or BIO 312; and ESS 206 or BIO 313; and one or more of the following health-related sciences: CHM 100, CHM 103, CHM 417, BIO 100, BIO 105, MIC 130; and one of the following social and behavioral sciences: SOC 110, SOC 120, SOC 334, PSY 100, PSY 210, PSY 212, PSY 320, PSY 320, PSY 331, and one of the following statistics/research design: CHE 350, MTH 145, PSY 331, PSY 420, SOC 250.

Curriculum

Required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HED 701</td>
<td>Contemporary Issues in Health Education</td>
<td>3</td>
</tr>
<tr>
<td>HED 703</td>
<td>Foundations in Health Education</td>
<td>3</td>
</tr>
<tr>
<td>HED 706</td>
<td>Research Tools and Processes</td>
<td>6</td>
</tr>
<tr>
<td>PH 707</td>
<td>Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>PH 717</td>
<td>Emerging Public Health Issues</td>
<td>3</td>
</tr>
</tbody>
</table>
PH 720  Program Assessment, Planning, and Evaluation in Health Promotion  3
PH 755  Epidemiology and Public Health Issues  3
CHE 780  Community Health Education Preceptorship  8
PH 790  Public Health Administration and Organization  3
Total Credits  35

In addition to the above required courses, student must select Option A - Thesis or Option B - Graduate project.

Option A – Thesis:
44 Total Credits

HED 799  Research: Master’s Thesis  4
Electives  5
Total Credits  9

Option B – Graduate project:
45 Total Credits

HED 798  Graduate Project in Health Education  3
Electives  7
Total Credits  10

Degree requirements
Graduate degree requirements

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
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8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)
The Medical Dosimetry Program offers a Master of Science that provides students with an educational foundation in medical dosimetry as well as clinical experience in a radiation oncology department. The curriculum requires online courses taken synchronously with a clinical internship at an affiliated site. Admission to the program is on a competitive basis.

"The Medical Dosimetrist is a member of the radiation oncology team who has knowledge of the overall characteristics and clinical relevance of radiation oncology treatment machines and equipment, is cognizant of procedures commonly used in brachytherapy and has the education and expertise necessary to generate radiation dose distributions and dose calculations in collaboration with the medical physicist and radiation oncologist" (A.A.M.D.).

This program utilizes web-based instruction for the didactic coursework. The clinical practicum courses and field work are taken at affiliated radiation oncology departments and are approximately 30-40 hours per week.

Routes of entry into Master of Science program

<table>
<thead>
<tr>
<th>Route of entry</th>
<th>Student Profile</th>
<th>Length</th>
<th>Number of Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Track A</td>
<td>For radiation therapists</td>
<td>4 terms</td>
<td>46</td>
</tr>
<tr>
<td>Track B</td>
<td>For those who are not yet radiation therapists</td>
<td>4 terms</td>
<td>46</td>
</tr>
<tr>
<td>Track C</td>
<td>For certified medical dosimetrists</td>
<td>3 terms</td>
<td>31</td>
</tr>
</tbody>
</table>

Graduate degrees

- Dosimetry for radiation therapist (track A) - MS (p. 63)
- Dosimetry for non-radiation therapist (track B) - MS (p. 64)
- Dosimetry for certified medical dosimetrists (track C) - MS (p. 66)

Dosimetry for Radiation Therapist (Track A) - Master of Science

Track A includes a 12 month clinical internship program. Clinical Internships will take place from January through December. The didactic online courses begin in the fall semester prior to starting clinical internship training. This Master of Science program not only delivers the core medical dosimetry curriculum, it also offers advanced professional and research coursework that prepares graduates for future advancement in the profession. Upon graduation, the student is considered a Route 1 exam applicant by the MDCB (http://www.mdcb.org). This program adheres to all JRCERT accreditation standards.

Program requirements

Dosimetry admission to program policy

Admission policies and the application/selection process have been developed with the intention to consider each applicant's strengths and select for admission those best qualified to meet the program's requirements and mission.

- Applicant must have an earned baccalaureate degree. (A degree in radiation therapy, physics, radiologic sciences, math, computers, or other areas approved by the program.)
- Cumulative GPA of 3.0; overall GPA of 3.0 on prerequisite coursework
- Minimum of 40 hours of documented medical dosimetry observation
- Prior documented experience working with patients in a healthcare environment
- Completed program and graduate school application with three letters of reference
- Interviews with program director and adjunct faculty at clinical internship sites
- Completion of computer eligibility requirements. More information can be found on the Medical Dosimetry Program (http://www.uwlax.edu/medical-dosimetry-ms) website.
- Students for whom English is a second language must earn a minimum score of 600 (paper-based), 250 (computer-based), or 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) within two years of application to the program.

Prerequisite coursework

- Human Anatomy & Physiology with labs; or equivalent | 6-8
- Physics-2 course sequence; or equivalent | 6-8
- Pre-Calculus; or College Algebra + Trigonometry; or equivalent | 3-4
- Biology; or equivalent | 3-4
Medical Terminology; or equivalent 1-3
Computer Science; or equivalent 2-3

Curriculum - Track A (for radiation therapists)

Students enrolled in the Master of Science degree program must take all courses in sequence per semester as a cohort (see sample degree plan tab). Courses are listed in order of enrollment.

46 credits

DOS 511 Imaging & Localization Concepts 2
DOS 513 Anatomy for Medical Dosimetrists 1
DOS 514 Physics Fundamentals for Medical Dosimetrists 3
DOS 515 Computers & Networking in Radiation Oncology 1
DOS 516 Fundamentals of Radiation Safety 1
DOS 750 Professional e-Portfolio 1
DOS 522 Radiation Dose Calculations 2
DOS 523 Treatment Planning in Medical Dosimetry 3
DOS 525 Brachytherapy for Medical Dosimetrists 2
DOS 711 Research Methodology in Medical Dosimetry I 2
DOS 771 Dosimetry Clinical Practicum I 5
DOS 518 Professionalism and Mentoring in Medical Dosimetry 1
DOS 531 Clinical Oncology for Medical Dosimetrists 3
DOS 731 Research Methodology in Medical Dosimetry II 2
DOS 741 Protocols & Studies in Radiation Oncology 1
DOS 772 Dosimetry Clinical Practicum II 5
DOS 541 Radiobiology for Medical Dosimetrists 1
DOS 542 Dosimetric Quality Assurance 1
DOS 543 Seminar in Medical Dosimetry 1
DOS 773 Dosimetry Clinical Practicum III 5
DOS 752 Operational Issues in Radiation Oncology 1
DOS 751 Research Methodology in Medical Dosimetry III 2

Total Credits: 46

Degree requirements

Graduate degree requirements

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed “Intent to Graduate” form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

Sample degree plan

Year 1

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<th>Summer</th>
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Year 2

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</table>

Total Credits: 46

Dosimetry for Non-Radiation Therapist (Track B) - Master of Science

Track B includes a 12 month clinical internship program. Clinical Internships will take place from January through December. The didactic online courses begin in the fall semester prior to starting clinical internship training. This Master of Science program does only deliver the core medical dosimetry curriculum, it also offers advanced professional and research coursework that prepares graduates for future advancement in the profession. Upon graduation, the student is considered a Route 1 exam applicant by the MDCB (http://www.mdcb.org). This program adheres to all JRCERT accreditation standards.

Program requirements

Dosimetry admission to program policy

Admission policies and the application/selection process have been developed with the intention to consider each applicant’s strengths and select for admission those best qualified to meet the program’s requirements and mission.
• Applicant must have an earned baccalaureate degree. (A degree in radiation therapy, physics, radiologic sciences, math, computers, or other areas approved by the program.)
• Cumulative GPA of 3.0; overall GPA of 3.0 on prerequisite coursework
• Minimum of 40 hours of documented medical dosimetry observation
• Prior documented experience working with patients in a healthcare environment
• Completed program and graduate school application with three letters of reference
• Interviews with program director and adjunct faculty at clinical internship sites
• Completion of computer eligibility requirements. More information can be found on the Medical Dosimetry Program (http://www.uwlax.edu/medical-dosimetry-ms) website.
• Students for whom English is a second language must earn a minimum score of 600 (paper-based), 250 (computer-based), or 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) within two years of application to the program.

**Prerequisite coursework**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<td>DOS 511</td>
<td>Imaging &amp; Localization Concepts</td>
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<td>DOS 514</td>
<td>Physics Fundamentals for Medical Dosimetrists</td>
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<td>DOS 515</td>
<td>Computers &amp; Networking in Radiation Oncology</td>
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<td>DOS 516</td>
<td>Fundamentals of Radiation Safety</td>
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<td>DOS 750</td>
<td>Professional e-Portfolio</td>
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<td>DOS 752</td>
<td>Radiation Dose Calculations</td>
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<td>Treatment Planning in Medical Dosimetry</td>
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<td>DOS 755</td>
<td>Brachytherapy for Medical Dosimetrists</td>
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<td>DOS 771</td>
<td>Research Methodology in Medical Dosimetry I</td>
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<tr>
<td>DOS 772</td>
<td>Dosimetry Clinical Practicum I</td>
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<td>DOS 731</td>
<td>Research Methodology in Medical Dosimetry II</td>
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<td>Protocols &amp; Studies in Radiation Oncology</td>
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<td>DOS 773</td>
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**Curriculum - Track B (for non-radiation therapists)**

Students enrolled in the Master of Science degree program must take all courses in sequence per semester as a cohort (see sample degree plan tab). Courses are listed in order of enrollment.

46 credits

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<thead>
<tr>
<th>Course Code</th>
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<td>DOS 656</td>
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<td>Professional e-Portfolio</td>
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<tr>
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<td>Dosimetry Clinical Practicum III</td>
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</table>

**Degree requirements**

**Graduate degree requirements**

After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

**Sample degree plan**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Fall Credits</th>
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Dosimetry for Certified Medical Dosimetrists (Track C) - Master of Science

Track C is the Master of Science degree completion program for Certified Medical Dosimetrists (CMD's) who are currently employed and want to obtain a Master of Science degree. The online program enables CMD's to earn a Master of Science degree in the profession with minimal disruption to their lives. This flexible online program strongly emphasizes professional and academic growth. Advanced program courses such as Operational Issues in Radiation Oncology, Protocols & Studies in Radiation Oncology, and education and research courses can enhance competitiveness for advanced level positions with increased pay in areas of management, senior medical dosimetry, education, applications, or research.

The program's 31 credits are obtained through web-based online lectures and discussions, independent study, and clinical experience.

Program requirements

Dosimetry admission to program policy

Admission policies and the application/selection process have been developed with the intention to consider each applicant’s strengths and select for admission those best qualified to meet the program’s requirements and mission.

- Applicant must have an earned baccalaureate degree. (A degree in radiation therapy, physics, radiologic sciences, math, computers, or other areas approved by the program.)
- Cumulative GPA of 3.0; overall GPA of 3.0 on prerequisite coursework
- Minimum of 40 hours of documented medical dosimetry observation
- Prior documented experience working with patients in a healthcare environment
- Completed program and graduate school application with three letters of reference
- Interviews with program director and adjunct faculty at clinical internship sites
- Completion of computer eligibility requirements. More information can be found on the Medical Dosimetry Program (http://www.uwlax.edu/medical-dosimetry-ms) website.
- Students for whom English is a second language must earn a minimum score of 600 (paper-based), 250 (computer-based), or 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) within two years of application to the program.

Prerequisite coursework

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>Human Anatomy &amp; Physiology with labs; or equivalent</td>
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<tr>
<td>Physics-2 course sequence; or equivalent</td>
<td>6-8</td>
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<tr>
<td>Pre-Calculus; or College Algebra + Trigonometry; or equivalent</td>
<td>3-4</td>
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<tr>
<td>Biology; or equivalent</td>
<td>3-4</td>
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<tr>
<td>Medical Terminology; or equivalent</td>
<td>1-3</td>
</tr>
<tr>
<td>Computer Science; or equivalent</td>
<td>2-3</td>
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</table>
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

Sample degree plan
This is a sample degree plan for completion of the Master of Science degree in 1 year (3 semesters). However, students can choose to take fewer courses per semester. Some courses must be taken in sequence.

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<td>DOS 793</td>
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Total Credits: 31
HP - Occupational Therapy Graduate Program

Occupational Therapy Program
Director: Peggy Denton
4049 Health Science Center; 608.785.8303
Email: pdenton@uwlax.edu

http://www.uwlax.edu/occupational-therapy-ms/

Occupational therapists work with people of all ages facing physical, emotional, or mental challenges. Students who choose a career in occupational therapy will be instrumental in helping people participate fully in the daily occupations of their lives.

The Master of Science in Occupational Therapy Program (MS in OT) prepares competent entry level occupational therapist leaders who are committed to providing excellent occupation centered client-centered evidence-based occupational therapy.

Accreditation
The occupational therapy program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA).

4720 Montgomery Lane
Suite 200
Bethesda, MD 20814-3449

Phone: 301.652.6611 x 2914
Fax: 240.762.5140
Email: accred@aota.org
Webpage: http://www.acoteonline.org

Graduate degree
- Occupational therapy - MS (p. 68)

Occupational Therapy - Master of Science

The Master of Science in Occupational Therapy Program is eight semesters (30 months) long with extensive clinical experiences woven throughout academic coursework. The last two semesters of the program are spent in full-time Level II fieldwork. Students should expect to incur additional expenses for books, course fees, housing and travel during clinical fieldwork. A part-time option is available on a case-by-case basis for fieldwork and students should expect to incur additional expense for tuition and fees.

A thesis option is available for students wishing to pursue independent research. Students must declare if they intend to complete the thesis option by the end of the first year in the program. Students pursuing the thesis option would delay enrollment in the OT 795 Level II Fieldwork until completion of the thesis.

Graduates of the program will be eligible to sit for the national certification examination for occupational therapy administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be an Occupational Therapist, Registered (OTR). In addition, most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT Certificate Examination. A felony conviction may affect a graduate's ability to sit for the NBCOT certification examination or attain state licensure.

Program requirements

Admission
1. Earned undergraduate degree (or degree completed prior to the start of the program)
2. Completion of all prerequisite course work
   - Anatomy and Physiology 8
   - Physics 4
   - Life Span Development 3
   - Statistics or Principles of Research 4
   - Abnormal Psychology 3
   - Introductory Sociology or Anthropology 3
3. A minimum grade point average of 3.0 for undergraduate studies
4. No grade of less than "C" in any prerequisite coursework
5. No more than two "C"s in prerequisite coursework
6. Personal Potential Index (PPI)
7. Complete application for admission to the Occupational Therapy Program and UW-La Crosse Graduate Studies

Selection process
Twenty-four to twenty six students are admitted each year. The deadline for application to the occupational therapy program is the first Friday in January for classes beginning the following May. Factors considered in the admission process are academic success (GPA), commitment to the profession of occupational therapy, and professional abilities as demonstrated in the written narrative, resume, and Personal Potential Index (PPI). Specific deadlines, application materials, and weighting of application criteria are available at 4031 Health Science Center and with the Occupational Therapy Program. (http://www.uwlax.edu/ot)

Curriculum

Required coursework (in order of enrollment)
88 credits

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<tr>
<td>OT 521</td>
<td>Professional Foundations of Practice</td>
<td>2</td>
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<tr>
<td>OT 523</td>
<td>Human Physiology</td>
<td>3</td>
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<td>OT 524</td>
<td>Human Anatomy</td>
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<td>OT 526</td>
<td>Critical Analysis of Human Movement: Development, Learning and Control</td>
<td>2</td>
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<td>OT 544</td>
<td>Biomechanics and Kinesiology Applications in Occupational Therapy</td>
<td>1</td>
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<tr>
<td>OT 545</td>
<td>Applied Biomechanics and Kinesiology in Occupational Therapy</td>
<td>1</td>
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<tr>
<td>OT 550</td>
<td>Scholarly Practice I: Assessment</td>
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<tr>
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<td>Applied Scholarly Practice I: Assessment</td>
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<tr>
<td>OT 570</td>
<td>Occupational Therapy Intervention: Group Dynamics</td>
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<tr>
<td>OT 571</td>
<td>Applied Occupational Therapy Intervention: Group Dynamics</td>
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<td>OT 530</td>
<td>Occupational Performance Analysis</td>
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<tr>
<td>OT 531</td>
<td>Applied Occupational Performance Analysis</td>
<td>1</td>
</tr>
<tr>
<td>OT 611</td>
<td>Pathophysiology</td>
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</tr>
<tr>
<td>OT 515</td>
<td>Functional Neuroanatomy</td>
<td>3</td>
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</table>
Optional electives

OT 723 International Perspectives in Occupational Therapy is an elective course taught each spring. OT 720 Selected Topics in Occupational Therapy will be taught periodically as an elective during Fall II or Spring II semesters. OT 798 Independent Study in Occupational Therapy is taught by arrangement with occupational therapy faculty. OT 799 Research: Master's Thesis is elective and may be started in Fall II and would be repeated each semester until thesis is completed (minimum four – maximum six credits).

Degree completion requirements

Prior to granting the degree students must:

- Maintain a 3.0 GPA throughout the professional graduate program
- Successfully complete (grade of "C" or better) all didactic coursework requirements
- Successfully complete (grade of "pass") two Level II fieldwork placements (total of 24 weeks)
- Finish all Level II fieldwork within 24 months of completion of academic portion of the program

Degree requirements

Graduate degree requirements

After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residency requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.

6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intercession should file by May 1. May and summer graduates should file by December 1.

7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.

8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

Sample degree plan

### Year 1

#### Summer

- OT 520 3 OT 524 5
- OT 521 2 OT 526 2
- OT 523 3 OT 544 1

#### Fall

- OT 545 1
- OT 550 1
- OT 551 1
- OT 570 1

#### Spring

- OT 611 2
- OT 515 3
- OT 750 2
- OT 751 1
- OT 660 2
- OT 661 1
- OT 670 2
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<thead>
<tr>
<th></th>
<th>Year 2 Credits</th>
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<th>Year 3 Credits</th>
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<tr>
<td></td>
<td>Credits Fall</td>
<td>Credits Winter</td>
<td>Credits Spring</td>
<td>Credits</td>
</tr>
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<td>OT 760</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>3</td>
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<td>OT 700</td>
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<td>OT 650</td>
<td>2</td>
<td>OT 630</td>
<td>2</td>
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<td>OT 651</td>
<td>1</td>
<td>OT 740</td>
<td>3</td>
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<tr>
<td>OT 640</td>
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<td>OT 741</td>
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<td>OT 775</td>
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<td>OT 726</td>
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<td>OT 777</td>
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<tr>
<td></td>
<td>5</td>
<td>16</td>
<td>1</td>
<td>14</td>
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</table>

Total Credits: 88
Physical therapists are health professionals educated at the doctoral level with expertise in the area of diagnosing and treating patients who have movement disorders. A professional doctoral degree involves extensive study over a wide range of courses integrating basic sciences with skilled professional practice. The practitioner must exhibit strong clinical skills and reasoning based on evidence-based rationale. Graduates will be able to enter practice with skills required to independently examine, evaluate, diagnose, render a prognosis, and assess outcomes for interventions in the management of impairments, functional limitations, and disabilities of the cardiopulmonary, musculoskeletal, neuromuscular, and integumentary systems. Graduates will also be able to provide health care that produces the best possible health outcomes and patient experiences for a reasonable cost. They must also be experts at advocating consumers, caregivers and the physical therapy profession.

The graduate-level professional curriculum is nine semesters long. Six semesters will emphasize classroom and laboratory learning and take place on the UWL campus. The final three semesters (36 weeks) will be comprised of internships that take place off-campus and culminate with students returning to campus for a debriefing session. The purpose of the internship is to allow students to be mentored by a master clinician to ensure that didactic knowledge translates into applied skill. Internship sites are selected based upon their learning environment. Clinical instructors are located nationwide. Program graduates must also pass the National Physical Therapy Examination administered by the Federation of State Boards of Physical Therapy to be licensed to practice as a physical therapist.

2016-17 Faculty/Staff
The following is the graduate faculty and staff as of the publication date of this catalog. This list will not be updated again until the next catalog is published in June.

Professor
Dennis C.W. Fater Ph.D, PT, Cert MDT
Thomas Kernozek Ph.D

Clinical Professor
Paul Reuteman PT, DPT, MHS, OCS, LAT
Michele Thorman PT, DPT, MBA

Associate Professor
John Greany PT, Ph.D, RCEP, FAACVP

Graduate degree
- Doctor of Physical Therapy - DPT (p. 71)

Doctor of Physical Therapy

Summary of program
- Cohort size: 45 admitted per year
- Total program credits: 111 credits (with option for three additional elective credits)
- Curriculum length: 34 months
- Didactic study: 74 weeks (1790 - 1793 contact hours)
- Full time clinical study: 42 weeks (1680 contact hours)
- Terminal internships: 36 weeks

Program requirements

Admissions
Entrance into the program is competitive. Students will be selected based upon their application portfolio.

Students seeking admission to the DPT program must have:

- Completed all pre-requisite coursework at the time of entry into the program.
- Submitted scores on the general test portion of the Graduate Record Examination (GRE), taken within the last five years. GRE minimums: 143 verbal, 143 quantitative, 3.0 written.
- Achieved an undergraduate cumulative grade point average (GPA) of 3.0.
- Achieved a GPA of 3.0 in the programs prerequisites courses.
- Completed undergraduate degree by the time of entry into the program.
- Completed at least two 20-hour clinical experiences under the supervision of a licensed PT with clinical letters of recommendation.
- Submission of program application.
Courses are taken at UWL.

109 credits (includes internship credits)

Prerequisite requirements
All applicants must successfully complete the following prerequisite courses:

- General Biology (Lab) 4
- Human Anatomy (Lab) 4
- Human Physiology (Lab) 4
- Chemistry (Lab) 8
- Physics (Lab) 8
- Statistics 3
- Psychology 3
- Psychology or Sociology 3

The program has an early and general admissions deadline of August 15th and November 1st and students are accepted until the class is filled. Students are accepted during the months of September and December after a review process.

Admission to the Physical Therapy Program at the University of Wisconsin-La Crosse is based on academic and personal qualifications considered necessary for a successful and competent entry level physical therapist and is therefore competitive. The UWL Physical Therapy Program grants the privilege of admission to applicants who have met the criteria set by the Physical Therapy Admissions Committee.

Curriculum
Classroom and laboratory learning (listed in order of enrollment)
109 credits (includes internship credits)

Courses are taken at UWL.

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<tr>
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<td>PTS 509</td>
<td>Human Gross Anatomy</td>
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<tr>
<td>PTS 510</td>
<td>Applied Human Gross Anatomy</td>
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<tr>
<td>PTS 512</td>
<td>Medical Physiology</td>
<td>4</td>
</tr>
<tr>
<td>PTS 520</td>
<td>Introduction to Physical Therapy Practice and</td>
<td>1</td>
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<tr>
<td></td>
<td>Evaluation Techniques</td>
<td></td>
</tr>
<tr>
<td>PTS 521</td>
<td>Applied Introduction to Physical Therapy Practice</td>
<td>2</td>
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<tr>
<td></td>
<td>and Evaluation Techniques</td>
<td></td>
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<tr>
<td>PTS 516</td>
<td>Physiological Regulation of Exertion and Disease</td>
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<tr>
<td>PTS 517</td>
<td>Applied Physiological Regulation of Exertion and</td>
<td>1</td>
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<tr>
<td></td>
<td>Disease</td>
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<tr>
<td>PTS 527</td>
<td>Foundations of the Physical Therapy Examination</td>
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<tr>
<td>PTS 528</td>
<td>Applied Foundations of the Physical Therapy</td>
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<tr>
<td></td>
<td>Examination</td>
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<td>PTS 523</td>
<td>Physical Agents</td>
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<tr>
<td>PTS 524</td>
<td>Applied Physical Agents</td>
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<td>PTS 525</td>
<td>Biomechanics and Kinesiology of Movement</td>
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<td>Applied Biomechanics and Kinesiology of Movement</td>
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<td>PTS 535</td>
<td>Functional Neuroanatomy</td>
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<td>PTS 536</td>
<td>Applied Functional Neuroanatomy</td>
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<td>Fieldwork: Introduction to Clinical Learning</td>
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<td>PTS 518</td>
<td>Motor Control, Motor Learning and Motor Development</td>
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<td>PTS 519</td>
<td>Applied Motor Control, Motor Learning, and Motor</td>
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<td></td>
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<tr>
<td>PTS 545</td>
<td>Foundations of Clinical Research</td>
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<td>PTS 546</td>
<td>Applied Foundations of Clinical Research</td>
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<tr>
<td>PTS 611</td>
<td>Pathophysiology</td>
<td>2</td>
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<tr>
<td>PTS 619</td>
<td>Early Intervention and Acute Care Physical Therapy</td>
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<td>PTS 620</td>
<td>Applied Early Intervention and Acute Care</td>
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<td>PTS 627</td>
<td>Therapeutic Exercise and Manual Therapy</td>
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<td>Applied Therapeutic Exercise and Manual Therapy</td>
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<td>PTS 625</td>
<td>Physical Therapy Management of the Cardiovascular/Pulmonary System</td>
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<td>Applied Physical Therapy Management of the</td>
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<td>PTS 631</td>
<td>Professionalism and the Ethos of Care</td>
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<td>PTS 542</td>
<td>Research and Applied Statistics</td>
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<tr>
<td>PTS 543</td>
<td>Instrumentation for Human Movement</td>
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<td>PTS 624</td>
<td>Applied Integument System</td>
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<td>PTS 728</td>
<td>Musculoskeletal Evaluation and Treatment: Spine</td>
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<td>PTS 729</td>
<td>Applied Musculoskeletal Evaluation and Treatment:</td>
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<tr>
<td></td>
<td>Spine</td>
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<tr>
<td>PTS 751</td>
<td>Fieldwork: General Practice</td>
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<td>PTS 701</td>
<td>Applied Adult Clinical Practice (required in two</td>
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<td>PTS 712</td>
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<td>PTS 715</td>
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<td></td>
<td>Extremity</td>
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<td>PTS 716</td>
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<td>Lower Extremity</td>
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<tr>
<td>PTS 717</td>
<td>Clinical Teaching</td>
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<td>PTS 718</td>
<td>Applied Clinical Teaching</td>
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<tr>
<td>PTS 735</td>
<td>Adult Neurorehabilitative Physical Therapy</td>
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<td>PTS 736</td>
<td>Applied Adult Neurorehabilitative Physical</td>
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<td>PTS 741</td>
<td>Evidenced Based Practice in Physical Therapy</td>
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<tr>
<td>PTS 742</td>
<td>Research Practicum</td>
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<td>PTS 710</td>
<td>Applied Health and Wellness in Physical Therapy</td>
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<td>PTS 737</td>
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<td>PTS 733</td>
<td>Health Care Systems &amp; Administration</td>
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<td>PTS 742</td>
<td>Research Practicum</td>
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### Internships (taken off campus)

19 credits

Focus of internship may occur in different order per student.

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<th>Credits</th>
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<tr>
<td>PTS 851</td>
<td>Internship: Inpatient-Acute/Rehab Setting</td>
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<tr>
<td>PTS 831</td>
<td>Clinical Decision Making in an Inpatient Acute Care/Rehab Setting</td>
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</tr>
<tr>
<td>PTS 852</td>
<td>Internship: Outpatient Orthopedic</td>
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<tr>
<td>PTS 853</td>
<td>Internship: Autonomous Practice</td>
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<td>Total</td>
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### Elective courses (optional)

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<tr>
<td>PTS 700</td>
<td>Selected Topics in Physical Therapy</td>
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<tr>
<td>PTS 702</td>
<td>Advanced Manual Therapy</td>
<td>2</td>
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<tr>
<td>PTS 703</td>
<td>Clinical Anatomy Review</td>
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<td>PTS 798</td>
<td>Independent Study</td>
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<td>PTS 854</td>
<td>Capstone Project</td>
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<td>Total</td>
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### Degree requirements

#### Graduate degree requirements

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
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8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

### Sample degree plan

#### Classroom and laboratory learning

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Summer</th>
<th>Credits</th>
<th>Fall</th>
<th>Credits</th>
<th>Winter</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
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<td>(14 weeks)</td>
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<td>(2 weeks)</td>
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<td>PTS 509</td>
<td>3 PTS 516</td>
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<td>1 PTS 518</td>
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<tr>
<td>PTS 510</td>
<td>3 PTS 517</td>
<td>1 PTS 519</td>
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<tr>
<td>PTS 512</td>
<td>4 PTS 527</td>
<td>3 PTS 545</td>
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<td>PTS 520</td>
<td>1 PTS 528</td>
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<tr>
<td>PTS 521</td>
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<td>2 PTS 611</td>
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#### Year 3

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</table>

Total Credits: 111

---

1. Students can take this course one time, either in fall or spring semester, not both.
Internship I, II, III: Inpatient, Outpatient, and Autonomous Practice. However, focus of internship may occur in different order per student.
HP - Physician Assistant Studies
Graduate Program

Physician Assistant Studies
Director: Sandra Sieck
4050 Health Science Center; 608.785.6621
Email: ssieck@uwlax.edu

http://www.uwlax.edu/physician-assistant-studies-ms/

Physician assistants (PAs) are health professionals licensed to practice medicine with the supervision of a physician. PAs work in a variety of practice settings including hospitals, clinics, nursing homes, and research centers. PAs are qualified to take medical histories, examine patients, order and administer diagnostic tests, make diagnoses, treat illnesses, and assist in surgery. The care they provide might otherwise be provided by physicians. PAs can provide care as generalists in primary care situations or in subspecialty areas of medicine. Common specialties in which PAs practice include family practice, internal medicine, obstetrics and gynecology, emergency medicine, orthopedics, surgery, and pediatrics.

The PA program represents a partnership of UWL, the Gundersen Medical Foundation of La Crosse, and the Mayo School of Health Sciences in Rochester, MN. The graduate-level professional curriculum is 24 months in length and involves classes on the campuses of all three partner institutions. The curriculum includes a 12-month preclinical year consisting primarily of classroom and laboratory activities. A 12-month clinical year follows and involves rotations in a variety of clinical specialties. These clinical experiences are provided primarily using Mayo, Gundersen Lutheran, and other practice sites in western Wisconsin, southern Minnesota, and northeastern Iowa.

Upon completion of all degree requirements, students are awarded a Master of Science degree in physician assistant studies from UWL and a certificate of completion from the program’s institutional partnership. The program is accredited by the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA). To be licensed to practice, graduates must pass the Physician Assistant National Certification Exam (PANCE) administered by the National Commission on Certification of Physician Assistants (NCCPA).

Graduate degree
- Physician assistant studies - MS (p. 75)

Physician Assistant Studies - Master of Science

The rigor and intensity of the program and the level of skills and responsibility necessary for practice as a physician assistant require the program to accept candidates who have demonstrated a strong academic background along with excellent interpersonal skills and maturity. Prior health care experience is expected as an indicator of a career commitment suitable to clinical practice. The program’s admission process considers each applicant’s strengths and selects for admission those best qualified to meet the program’s mission. Application to the program is very competitive with a class of 19 students accepted annually.

Program requirements

Admission

Application process

To be considered for admission applicants must have all of the following completed:

1. An application with the Central Application Service for Physician Assistants (CASPA) including three letters of reference. CASPA is a national application service that collects and verifies application materials and calculates various GPAs before forwarding the applicants file to the programs selected by the applicant. For details, visit CASPA (https://portal.caspaonline.org/caspaHelpPages/about-caspaoverview).
3. Submission of the program application fee.
4. International applicants have additional requirements. (http://www.uwlax.edu/Physician-Assistant-Studies-MS/Admission-requirements)

Admission requirements

1. An earned bachelor’s degree from an accredited institution.
2. A minimum cumulative GPA (as calculated by CASPA) of 3.00 calculated on a 4-point scale.
3. A minimum science (as defined and calculated by CASPA) GPA of 3.00 on a 4-point scale.
4. Submission of Graduate Record Exam (GRE) scores is required with scores forwarded to UWL and the PA program. GRE scores are used as another measure of academic aptitude along with GPA. Thus, there is no minimum required score.

Interview selection factors

An interview is required for admission to the program. Only three factors are used to determine who will receive an invitation for an interview:

1. Cumulative grade point average (GPA), as calculated by CASPA
2. Science GPA, as calculated by CASPA
3. Graduate Record Examination (GRE) scores

For students who are offered and who complete an interview, the following factors are used to determine admission status:

1. Written application including references
2. Background predictive of potential for future practice in the service areas of the program’s partner institutions
3. Knowledge of the PA profession and the profession’s role in the healthcare system
4. Interpersonal skills
5. Quality and extent of healthcare related experience
6. Rigor of undergraduate education

Program prerequisites

Applicants must have the following coursework completed prior to beginning the PAS program. Students may apply with outstanding prerequisite courses so long as they demonstrate a plan to complete those courses before matriculating in the program.

Biology: At least 14 semester hours of biology in the following areas including at least two lab courses:
• **Anatomy and Physiology:** One semester of human anatomy AND one semester of human physiology; OR a two-semester sequence of combined human anatomy which must be at the 200/sophomore level or above. Though vertebrate and mammalian anatomy and physiology are acceptable, human anatomy and physiology is strongly preferred.

• **Microbiology:** One semester at the 200/sophomore level or above.

• **Health related upper division biological science:** One semester of any of the following at the 300/junior level or above: genetics, immunology, vertebrate/mammalian embryology, endocrinology, histology, pathophysiology, neuroscience, parasitology, mycology, or biology of cancer.

**Chemistry:** A minimum of 11 semester hours of chemistry including the following courses, at least two of which must include a laboratory:

- **General Chemistry:** One semester of general or introductory chemistry.
- **Organic Chemistry:** One semester at the 200/sophomore level or above.
- **Biochemistry:** One semester at the 200/sophomore level or above. Molecular or cellular at the 300 level or above is an acceptable alternative.

**Mathematics:** A minimum of two semesters of mathematics including:

- **Pre-calculus/Calculus:** One semester of college algebra with trigonometry or pre-calculus or calculus.
- **Statistics:** One semester of statistics.

**Psychology:** A minimum of one semester of general, introductory, developmental, or abnormal psychology.

**Health Care Experience:** Prior direct patient care health experience is expected but not required. Such experience provides evidence of a career commitment to healthcare as a PA. In the program's competitive admission process, the length and depth of healthcare experience is a selection factor.

**Technical Standards of Performance:** Applicants must also meet the program's technical standards of performance in the areas of observation, communication, motor function, intellectual/conceptual, integrative and quantitative ability, and behavioral and social attributes. The Physician Assistant Program has posted these standards online. Applicants may have accommodations to meet these standards.

### Applicable UWL courses:

#### Biology

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIO 312</td>
<td>Human Anatomy and Physiology I (BIO 103 or BIO 105 and CHM 103 are prereqs)</td>
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<tr>
<td>BIO 313</td>
<td>Human Anatomy and Physiology II</td>
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#### Microbiology

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<thead>
<tr>
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<tbody>
<tr>
<td>MIC 230</td>
<td>Fundamentals of Microbiology (BIO 103 or BIO 105 and CHM 103 are prereqs)</td>
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#### Health related courses

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<tr>
<td>BIO 306</td>
<td>Genetics</td>
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<td>or BIO 466</td>
<td>Human Molecular Genetics</td>
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<tr>
<td>MIC 310</td>
<td>Immunology</td>
<td>2-3</td>
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<tr>
<td>or MIC 410</td>
<td>Immunology Laboratory</td>
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<tr>
<td>BIO 408</td>
<td>Developmental Biology</td>
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<tr>
<td>BIO 424</td>
<td>Human Endocrinology</td>
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<td>BIO 443</td>
<td>Molecular Mechanism of Disease and Drug Action</td>
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<td>BIO 465</td>
<td>Neurophysiology</td>
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<td>BIO 406</td>
<td>Parasitology</td>
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<td>BIO 413</td>
<td>Medical Mycology</td>
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<td>BIO 432</td>
<td>Biology of Cancer</td>
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#### Chemistry

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<td>CHM 103</td>
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<td>CHM 104</td>
<td>General Chemistry II</td>
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#### Organic chemistry

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<th>Credits</th>
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<tr>
<td>CHM 300</td>
<td>Survey of Organic Chemistry</td>
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<tr>
<td>OR</td>
<td>CHM 303 OR CHM 304 Organic Chemistry Theory I OR Organic Chemistry Theory II</td>
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#### Biochemistry

Select either:

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<td>CHM 325</td>
<td>Fundamental Biochemistry I</td>
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<td>OR</td>
<td>CHM 417 OR CHM 418 Biochemistry I: Macromolecules OR Biochemistry II: Metabolism and Genetic Information</td>
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#### Mathematics

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#### Statistics

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<td>MTH 145</td>
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<tr>
<td>or MTH 405</td>
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#### Psychology

Select one from:

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<td>PSY 100</td>
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<td>PSY 210</td>
<td>Developmental Psychology</td>
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<td>PSY 212</td>
<td>Lifespan Development</td>
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<td>PSY 204</td>
<td>Abnormal Psychology</td>
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<td>PSY 356</td>
<td>The School-aged Child</td>
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<td>PSY 357</td>
<td>Adolescence</td>
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<td>PSY 358</td>
<td>Adulthood</td>
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1. BIO 435 or BIO 315 are acceptable alternatives.

### Professional PAS curriculum

The PA Program curriculum includes a total of 108 required credits including 58 credits of pre-clinical year courses, 44 credits of clinical rotations and six credits of capstone seminar in the clinical year. Pre-clinical year courses are only offered once a year and are taken as a cohort. The clinical year curriculum is only offered on a full-time basis with students in clinical sites 40+ hours per week. Thus, the entire curriculum is considered a full-time curriculum. The pre-clinical year curriculum must be successfully completed before a student can advance to the clinical year. Students must then complete clinical rotations including all of the required rotations, PAS 720-732 and selective rotations PAS 756-759. The rotations do not need to be completed in a specific order and sequence is subject to availability of clinical sites. The capstone seminar series must be completed, totaling six credits.
Pre-clinical year courses (listed in order of enrollment)

58 credits

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<td>PAS 509</td>
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<td>PAS 510</td>
<td>Applied Human Gross Anatomy</td>
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<td>PAS 624</td>
<td>Medical Biochemistry</td>
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<td>PAS 626</td>
<td>Physiology for the Medical Professional</td>
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<td>PAS 640</td>
<td>Introduction to the Physician Assistant</td>
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<td>PAS 628</td>
<td>Clinical Infectious Disease</td>
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<td>PAS 630</td>
<td>Medical Pharmacology and Pharmacotherapeutics I</td>
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<td>PAS 642</td>
<td>Medical History and Physical Exam</td>
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<td>PAS 643</td>
<td>Applied Medical History and Physical Exam</td>
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<td>PAS 654</td>
<td>Evidence Based Medicine</td>
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<td>PAS 680</td>
<td>Pathology</td>
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<tr>
<td>PAS 681</td>
<td>Medical Diagnostics</td>
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<tr>
<td>PAS 682</td>
<td>Internal Medicine: Cardiology</td>
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<tr>
<td>PAS 683</td>
<td>Internal Medicine: Gastroenterology &amp; Pulmonology</td>
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<td>PAS 688</td>
<td>Neuroanatomy</td>
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<td>PAS 644</td>
<td>The Clinical Patient Examination</td>
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<tr>
<td>PAS 649</td>
<td>Health Care Administration, Law, &amp; Ethics in Medicine</td>
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<td>PAS 701</td>
<td>Internal Medicine Subspecialty: Nephrology</td>
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<td>PAS 631</td>
<td>Medical Pharmacology and Pharmacotherapeutics II</td>
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<td>PAS 645</td>
<td>Evidence Based Practice</td>
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<td>PAS 647</td>
<td>Clinical Practice Skills</td>
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<td>PAS 651</td>
<td>Behavioral Medicine</td>
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<tr>
<td>PAS 703</td>
<td>Internal Medicine Subspecialty: Endocrinology</td>
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<td>PAS 707</td>
<td>Internal Medicine Subspecialties II: Hematology and Rheumatology</td>
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<td>PAS 709</td>
<td>Emergency Medicine</td>
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<tr>
<td>PAS 711</td>
<td>Clinical Neuroscience</td>
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<td>PAS 760</td>
<td>Obstetrics - Maternal/Fetal Care</td>
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<tr>
<td>PAS 761</td>
<td>Gynecology and Women's Health</td>
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<td>PAS 762</td>
<td>Pediatric and Adolescent Medicine</td>
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<td>PAS 770</td>
<td>Principles of Surgical Medicine I: General Surgery and Anesthesia</td>
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<td>PAS 771</td>
<td>Principles of Surgical Medicine II: Orthopedics</td>
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<tr>
<td>PAS 772</td>
<td>Principles of Surgical Medicine III: Surgical Subspecialties</td>
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<td>PAS 773</td>
<td>Dermatology</td>
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<tr>
<td>PAS 652</td>
<td>Clinical Procedures</td>
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</table>

Total Credits 58

Clinical rotations

44 credits

Completion of required rotations (PAS 720-732) and selective rotations (PAS 765-759) do not need to be completed in a specific order. Sequence is subject to availability of specific sites. Rotations are scheduled individually by student.

Required clinical rotations

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<td>Family Medicine Rotation I</td>
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<tr>
<td>PAS 722</td>
<td>Internal Medicine Rotation I</td>
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<td>PAS 724</td>
<td>General Surgery Rotation</td>
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<tr>
<td>PAS 726</td>
<td>Obstetrics and Gynecology Rotation</td>
<td>4</td>
</tr>
<tr>
<td>PAS 728</td>
<td>Pediatric Rotation</td>
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<tr>
<td>PAS 730</td>
<td>Psychiatry Rotation</td>
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<tr>
<td>PAS 732</td>
<td>Emergency Medicine Rotation</td>
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Selective clinical rotations

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<td>PAS 756</td>
<td>Selective Rotation 1</td>
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</tr>
<tr>
<td>PAS 757</td>
<td>Selective Rotation 2</td>
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</tr>
<tr>
<td>PAS 758</td>
<td>Selective Rotation 3</td>
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</tr>
<tr>
<td>PAS 759</td>
<td>Selective Rotation 4</td>
<td>4</td>
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Total Credits 44

Capstone seminar

6 credits

<table>
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<tr>
<th>Course Code</th>
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<tr>
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<td>Capstone Seminar 1</td>
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<tr>
<td>PAS 792</td>
<td>Capstone Seminar 2</td>
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<tr>
<td>PAS 794</td>
<td>Capstone Seminar 3</td>
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Total Credits 6

Degree requirements

Graduate degree requirements

After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

**Sample degree plan**

Course schedule by semester:

### Pre-Clinical Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credits Fall</th>
<th>Credits Winter</th>
<th>Credits Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUMMER</td>
<td>PAS 509</td>
<td>3</td>
<td>PAS 628</td>
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<tr>
<td></td>
<td>PAS 510</td>
<td>3</td>
<td>PAS 630</td>
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<td>PAS 624</td>
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<td>PAS 642</td>
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<td>PAS 640</td>
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### Clinical Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credits Fall</th>
<th>Credits Winter</th>
<th>Credits Spring</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>SUMMER</td>
<td>Clinical rotations, three 4-week rotations. Select three of the following:¹¹</td>
<td>12</td>
<td>Clinical rotations, four 4-week rotations. Select four of the following:¹¹</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>PAS 652</td>
<td>2</td>
<td>PAS 720</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Clinical rotations four 4-week rotations</td>
<td>16</td>
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<td>Select four of the following:¹¹</td>
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<tr>
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<td>PAS 720</td>
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<td>PAS 732</td>
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<td>PAS 756</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PAS 759</td>
<td>4</td>
</tr>
</tbody>
</table>

---

¹¹ Rotations scheduled individually by student

Total Credits: 108
MIC - Microbiology Graduate Program

Microbiology Program
Microbiology: Clinical Microbiology Program
Director: Michael Hoffman
3023 Cowley Hall; 608.785.6984
Email: mhoffman@uwla.edu

www.uwlax.edu/microbiology-ms/
www.uwlax.edu/clinical-microbiology-ms/

The Master of Science in Microbiology Program allows students advanced study in multiple areas of microbiology. Students have the option of a general M.S. degree or an M.S. degree in microbiology with an emphasis in clinical microbiology.

Admission to the program is based, in part, on undergraduate course work, undergraduate grade point average (GPA), scores on the GRE general exam, letters of recommendation, and a personal letter. Each student will choose a major advisor and an advisory committee during the first semester of residence. This committee will assist the student in drafting the student’s plan of study, which will dictate the student’s curriculum for the ensuing semesters.

All students complete a capstone experience. Students obtaining the M.S. in microbiology complete a thesis while students in the clinical microbiology emphasis or M.S. in biology with a clinical microbiology concentration complete a thesis or seminar paper.

2016-17 Faculty/Staff

The following is the graduate faculty as of the publication date of this catalog. This list will not be updated again until the next catalog is published in June.

Professor
Michael Hoffman
William Schwan

Associate Professor
Bonnie Bratina
Marc Rott
Bernadette Taylor

Graduate degrees
- Microbiology - MS (p. 79)
- Microbiology - MS: clinical microbiology emphasis (p. 80)

Microbiology - Master of Science

The Microbiology Master of Science Program is a traditional master’s program in which students focus on coursework and producing original research with a faculty mentor. For coursework, students, in consultation with a faculty committee, choose classes from a list of 28 courses. For the original research, students work with a faculty mentor in any aspect of microbiology, including environmental microbiology, microbial ecology, food and industrial, bacterial physiology, genetics, immunology, infectious disease microbiology and more.

Program requirements

Admission:

1. Admission to the graduate Microbiology Program requires a minimum course of one introductory microbiology course (MIC 230 Fundamentals of Microbiology or equivalent). Students lacking an introductory microbiology course may be conditionally admitted contingent on remediation of this prerequisite. Remediated prerequisite courses do not count toward the M.S. degree. Additional courses in microbiology and a strong chemistry background, including biochemistry, are highly recommended.

2. An overall undergraduate grade point average of at least 2.85 on a 4.00 scale, an average of at least 3.00 in the last half of all undergraduate work, or an average of at least 3.00 for no less than 12 semester credits of graduate study at another accredited graduate school. Some programs have higher grade point average admission requirements.

3. Completion of the Graduate Record Examination (GRE). Average scores in the 40th percentile or higher are strongly recommended. A minimum score of 1000 for the total general test scores for verbal and quantitative sections is strongly recommended. A GRE subject test is not required. International students must also complete and submit the TOEFL exam. A score of 550 (or 79 for the IBT TOEFL) is required.

4. Students must complete a University of Wisconsin System online admission application (https://apply.wisconsin.edu). More information about the application process can be found on UWL’s graduate admissions page (https://www.uwlax.edu/Admissions/Graduate-student). Students interested in a graduate assistantship from the Department of Biology must also complete the “Application for Graduate Assistantship” form (http://www.uwlax.edu/Biology-MS/Financial-Support).

5. Three current letters of recommendation should be sent under separate cover.

6. An application letter which details:
   a. Academic and professional goals
   b. Previous relevant experiences
   c. Reasons for selecting program
   d. Intent to pursue thesis or non-thesis track or undecided
   e. Research interest(s) if there is a desire to pursue the thesis track
   f. Possible faculty mentor(s) for research if pursuing the thesis track and if known

7. Completed applications must be returned to the Admissions Office by January 20 for US students and January 10 for international students. Early applications can be considered prior to the deadline. A review committee will assess all submitted materials and a letter of decision will be sent to the applicant. An interview may be required in some instances. Acceptance or non-acceptance is based upon a comprehensive review of all elements of the completed application. Late applications will be considered if enrollment objectives have not been satisfied. Late applications will be considered if enrollment objectives have not been satisfied. Consideration for fellowships is extremely unlikely with late applications.

The graduate Microbiology Program (https://www.uwlax.edu/Microbiology-MS/Admission-requirements) has further application and contact information online.
Curriculum:

The Master of Science in Microbiology requires:

1. Completion of a research thesis (MIC 799, 2-6 credits) in an area of microbiology (including an oral defense of the thesis),
2. Passing an oral comprehensive exam, and
3. Completion of 30 credits of graduate course work with at least 20 credits from the following list. The remaining credits are selected by the student and the advisory committee.

Select 20 credits from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIC 507</td>
<td>Pathogenic Bacteriology</td>
<td>4</td>
</tr>
<tr>
<td>MIC 510</td>
<td>Immunology Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>MIC 516</td>
<td>Microbial Genetics</td>
<td>5</td>
</tr>
<tr>
<td>MIC 520</td>
<td>Introductory Virology</td>
<td>3</td>
</tr>
<tr>
<td>MIC 521</td>
<td>Virology Laboratory</td>
<td>2</td>
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<tr>
<td>MIC 525</td>
<td>Bacterial Physiology</td>
<td>5</td>
</tr>
<tr>
<td>MIC 527</td>
<td>Industrial and Fermentation Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>MIC 528</td>
<td>Fermentation Microbiology Laboratory</td>
<td>2</td>
</tr>
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<td>MIC 534</td>
<td>Aquatic Microbial Ecology</td>
<td>3</td>
</tr>
<tr>
<td>MIC 540</td>
<td>Bioinformatics</td>
<td>2</td>
</tr>
<tr>
<td>MIC 542</td>
<td>Plant Microbe Interactions</td>
<td>3</td>
</tr>
<tr>
<td>MIC 554</td>
<td>Mechanisms of Microbial Pathogenicity</td>
<td>2</td>
</tr>
<tr>
<td>MIC 555</td>
<td>Field and Laboratory Methods in Vector-Borne and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Zoonotic Disease Research</td>
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<tr>
<td>MIC 560</td>
<td>Symposium in Microbiology</td>
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<tr>
<td>MIC 714</td>
<td>Advanced Genetics</td>
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<tr>
<td>MIC 721</td>
<td>Directed Studies</td>
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<td>MIC 730</td>
<td>Biodegradation and Bioremediation of</td>
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<tr>
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<td>Environmental Contaminants</td>
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<tr>
<td>MIC 751</td>
<td>Graduate Seminar</td>
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<tr>
<td>MIC 753</td>
<td>Epidemiology of Infectious Disease</td>
<td>2</td>
</tr>
<tr>
<td>MIC 755</td>
<td>Advanced Immunology</td>
<td>2</td>
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<tr>
<td>MIC 799</td>
<td>Research: Master’s Thesis</td>
<td>2-6</td>
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<tr>
<td>CLI 540</td>
<td>Clinical Parasitology</td>
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<td>BIO 506</td>
<td>Parasitology</td>
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<tr>
<td>BIO 512</td>
<td>Mycology</td>
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<td>BIO 513</td>
<td>Medical Mycology</td>
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<tr>
<td>BIO 535</td>
<td>Molecular Biology</td>
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<td>BIO 536</td>
<td>Molecular Biology Laboratory</td>
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<td>BIO 563</td>
<td>Aquatic Animal Health</td>
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<tr>
<td>BIO 701</td>
<td>Communication in the Biological Sciences</td>
<td>4</td>
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</table>

Total credits required: 30

Degree requirements

Microbiology graduate student requirements:

All graduate students in microbiology must meet the following requirements:

1. Students must complete and submit a plan of study prior to the midterm of the first semester of residence.
2. Ideally, students should submit a written thesis or seminar paper proposal to the advisory committee prior to the midterm of the second semester of residence. Failure to submit a thesis proposal prior to the fourth semester will result in the student being shifted from thesis track to seminar paper track.
3. Enroll in MIC 751 Graduate Seminar (1 cr.) the first four semesters of residence. Two of the semesters must be taken for one credit each; the other two semesters will be taken on an audit (no credit) basis.
4. Students are encouraged to complete an appropriate graduate course (numbers 500 and above) from outside the department of microbiology. Upon approval of a student’s advisory committee, a student may be permitted to take a maximum of 10 graduate credits in other departments.
5. Pass a preliminary oral examination covering the student's area of specialty and advanced course work.
6. Complete at least 15 credits of 700-level course work.
7. Consult this catalog and the department's graduate student guidelines for additional policies pertaining to graduate students in a microbiology program.

Graduate degree requirements

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed “Intent to Graduate” form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

Microbiology: Clinical Microbiology Emphasis - Master of Science

This emphasis is offered by the Department of Biology, the Department of Microbiology, Gundersen Lutheran Medical Center, Marshfield Laboratories/St. Joseph’s Hospital/Marshfield Clinic, and the Wisconsin...
Program requirements

Admission:

1. Individuals accepted into the graduate Microbiology: Clinical Microbiology Emphasis Program must hold a Bachelor of Science degree or equivalent in microbiology, biology, or a related field with competency in microbiology. Graduates with a clinical laboratory science degree from a program accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) are also eligible. Minimum prerequisites for admission to the program are MIC 230 Fundamentals of Microbiology, MIC 310 Immunology, MIC 410 Immunology Laboratory, MIC 407/MIC 507 Pathogenic Bacteriology, or equivalent courses. A strong chemistry background including biochemistry is strongly recommended. Students lacking prerequisites may be conditionally admitted to the emphasis program contingent on remediation of prerequisites. Remediated prerequisite courses do not count toward the M.S. degree.

2. An overall undergraduate grade point average of at least 2.85 on a 4.00 scale, an average of at least 3.00 in the last half of all undergraduate work, or an average of at least 3.00 for no less than 12 semester credits of graduate study at another accredited graduate school. Some programs have higher grade point average admission requirements.

3. Completion of the Graduate Record Examination (GRE). Average scores in the 40th percentile or higher are strongly recommended. A GRE subject test is not required. International students must also complete and qualitative sections is strongly recommended. A GRE subject test is not required. A minimum score of 1000 for the total general test scores for verbal and qualitative sections is strongly recommended. A GRE subject test is not required. International students must also complete and submit the TOEFL exam. A score of 550 (or 79 for the IBT TOEFL) is required.

4. Students must complete a University of Wisconsin System online application (https://apply.wisconsin.edu). More information about the application process can be found on UWL’s graduate admissions page (https://www.uwlax.edu/Admissions/Graduate-student). Students interested in a graduate assistantship from the Department of Biology must also complete the “Application for Graduate Assistantship” form (http://www.uwlax.edu/Biology-MS/Financial-Support).

5. Three current letters of recommendation.

6. An application letter which details:
   a. Academic and professional goals
   b. Previous relevant experiences
   c. Reasons for selecting program
   d. Intent to pursue thesis or non-thesis track or undecided
   e. Research interest(s) if pursuing the thesis track
   f. Possible faculty mentor(s) for research if pursuing the thesis track, if known

7. Completed applications must be returned to the Admissions Office by January 20 for US students and January 10 for international students. Early applications can be considered prior to the deadline. A review committee will assess all submitted materials and a letter of decision will be sent to the applicant. An interview may be required in some instances. Acceptance or non-acceptance is based upon a comprehensive review of all elements of the completed application. Late applications will be considered if enrollment objectives have not been satisfied. Consideration for fellowships is extremely unlikely with late applications.

The graduate Clinical Microbiology Program (http://www.uwlax.edu/Clinical-Microbiology-MS/Admission-requirements) has further application and contact information online.

Curriculum

The Master of Science in Microbiology with a Clinical Microbiology Emphasis requires:

1. Completion of a research thesis (Plan A) or seminar paper (Plan B) in an area of clinical microbiology (including an oral defense of the thesis or seminar paper).
2. Passing an oral comprehensive exam, and
3. Completion of the core curriculum of a minimum of 32 credits.

**Plan A - Thesis**

<table>
<thead>
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<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
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<td>MIC 500</td>
<td>Orientation to Clinical Microbiology</td>
<td>2</td>
</tr>
<tr>
<td>MIC 554</td>
<td>Mechanisms of Microbial Pathogenicity</td>
<td>2</td>
</tr>
<tr>
<td>MIC 751</td>
<td>Graduate Seminar (taken four times: two of the semesters must be taken for one credit each; the other two semesters will be taken on an audit (no credit) basis)</td>
<td>2</td>
</tr>
<tr>
<td>MIC 753</td>
<td>Epidemiology of Infectious Disease</td>
<td>2</td>
</tr>
<tr>
<td>MIC 755</td>
<td>Advanced Immunology</td>
<td>2</td>
</tr>
<tr>
<td>MIC 770</td>
<td>Clinical Microbiology Practicum I</td>
<td>5</td>
</tr>
<tr>
<td>MIC 780</td>
<td>Clinical Microbiology Practicum II</td>
<td>4</td>
</tr>
<tr>
<td>MIC 790</td>
<td>Clinical Microbiology Practicum III</td>
<td>2</td>
</tr>
<tr>
<td>MIC 799</td>
<td>Research: Master's Thesis</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
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<td>5</td>
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<td><strong>Total Credits</strong></td>
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<td>32</td>
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**Plan B - Seminar Paper**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
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<td>Orientation to Clinical Microbiology</td>
<td>2</td>
</tr>
<tr>
<td>MIC 554</td>
<td>Mechanisms of Microbial Pathogenicity</td>
<td>2</td>
</tr>
<tr>
<td>MIC 751</td>
<td>Graduate Seminar (taken four times: two of the semesters must be taken for one credit each; the other two semesters will be taken on an audit (no credit) basis)</td>
<td>2</td>
</tr>
<tr>
<td>MIC 753</td>
<td>Epidemiology of Infectious Disease</td>
<td>2</td>
</tr>
<tr>
<td>MIC 755</td>
<td>Advanced Immunology</td>
<td>2</td>
</tr>
<tr>
<td>MIC 761</td>
<td>Research and Seminar in Microbiology</td>
<td>2</td>
</tr>
<tr>
<td>MIC 770</td>
<td>Clinical Microbiology Practicum I</td>
<td>5</td>
</tr>
<tr>
<td>MIC 780</td>
<td>Clinical Microbiology Practicum II</td>
<td>4</td>
</tr>
<tr>
<td>MIC 790</td>
<td>Clinical Microbiology Practicum III</td>
<td>2</td>
</tr>
</tbody>
</table>
### Microbiology graduate student requirements:

All graduate students in microbiology must meet the following requirements:

1. Students must complete and submit a plan of study prior to the midterm of the first semester of residence.
2. Ideally, students should submit a written thesis or seminar paper proposal to the advisory committee prior to the midterm of the second semester of residence. Failure to submit a thesis proposal prior to the fourth semester will result in the student being shifted from thesis track to seminar paper track.
3. Enroll in MIC 751 Graduate Seminar (1 cr.) the first four semesters of residence. Two of the semesters must be taken for one credit each; the other two semesters will be taken on an audit (no credit) basis.
4. Students are encouraged to complete an appropriate graduate course (numbers 500 and above) from outside the department of microbiology. Upon approval of a student's advisory committee, a student may be permitted to take a maximum of 10 graduate credits in other departments.
5. Pass a preliminary oral examination covering the student's area of specialty and advanced course work.
6. Complete at least 15 credits of 700-level course work.
7. Consult this catalog and the department's graduate student guidelines for additional policies pertaining to graduate students in a microbiology program.

### MTH - Data Science Graduate Program

**Data Science Program**
**Director:** Jeffrey Baggett
1026 Cowley Hall; 608.785.8393
**Email:** jbaggett@uwlnx.edu

http://datasciencedegree.wisconsin.edu/

The goal of the Master of Science in Data Science Program is to educate data science leaders. The program prepares students at an advanced level to derive insights from real-world datasets, using the latest tools and analytical methods, and to interpret and communicate their findings effectively. The curriculum closely complements what has been identified as typical data science tasks to include, but not limited to, the identification and interpretation of rich data sources, the management of large amounts of data, the merging of data sources, ensuring consistency of datasets, creating visualizations to aid in understanding data, building mathematical models using the data, and presenting and communicating the data insights/findings to diverse expert and non-expert audiences.

The program features a multidisciplinary curriculum that draws primarily from computer science, math and statistics, management, and communication and represents a fixed curriculum comprising 36 credits (12 three-credit courses) to include a required capstone course which represents the culminating experience for students. The online M.S. in Data Science Program will focus primarily on adult and non-traditional students who hold an undergraduate degree and have the desire to continue their education towards a graduate degree, primarily...
to expand knowledge and specialized skills in this area and for career advancement.

A collaborative program
The M.S. in Data Science is a fully online 36-credit (12 three-credit courses including a capstone course) graduate program offered jointly by UW-Eau Claire, UW-Green Bay, UW-La Crosse, UW-Oshkosh, UW-Stevens Point, and UW-Superior. The program follows a home-campus model. Candidates apply to one of the six partner institutions. Upon a student's admittance, that institution becomes the student's administrative home for the degree through graduation.

Graduate degree

- Data science - MS (p. 83)

Data Science - Master of Science
Program requirements
Admission
To be admitted to this program, candidates must meet the following requirements:

1. Admitted to UWL graduate school (http://www.uwlax.edu/Admissions/Graduate-student)
2. Completed the following three courses:
   a. Elementary Statistics
   b. Introduction to Programming
   c. Introduction to Databases

Curriculum

36 credits

Required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS 700</td>
<td>Foundations of Data Science</td>
<td>3</td>
</tr>
<tr>
<td>DS 705</td>
<td>Statistical Methods</td>
<td>3</td>
</tr>
<tr>
<td>DS 710</td>
<td>Programming for Data Science</td>
<td>3</td>
</tr>
<tr>
<td>DS 715</td>
<td>Data Warehousing</td>
<td>3</td>
</tr>
<tr>
<td>DS 730</td>
<td>Big Data: High Performance Computing</td>
<td>3</td>
</tr>
<tr>
<td>DS 735</td>
<td>Communicating about Data</td>
<td>3</td>
</tr>
<tr>
<td>DS 740</td>
<td>Data Mining</td>
<td>3</td>
</tr>
<tr>
<td>DS 745</td>
<td>Visualization and Unstructured Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>DS 760</td>
<td>Ethics of Data Science</td>
<td>3</td>
</tr>
<tr>
<td>DS 775</td>
<td>Prescriptive Analytics</td>
<td>3</td>
</tr>
<tr>
<td>DS 780</td>
<td>Data Science and Strategic Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>DS 785</td>
<td>Capstone</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits 36

Degree requirements

Graduate degree requirements

After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

PSY - School Psychology Program - Master of Science in Education

Education Specialist and Master of Science in Education
School Psychology Program
Director: Robert J. Dixon
347 Graff Main Hall; 608.785.8441
Email: rdixon@uwlax.edu
http://www.uwlax.edu/school-psychology/

The UW-La Crosse School Psychology Program offers an Education Specialist degree. The degree requires two years of full-time study, one summer of study, a one-year internship during the third year, completion of a capstone project, and the passing of either the national school psychology test or the UW-L comprehensive examinations. Successful completion of all program requirements for the 71-73 semester credits leads to licensure as a School Psychologist in Wisconsin and most other states. Students earn a 31-credit Master of Science in Education (p. 84) degree before completing the remaining Education Specialist (p. 86) degree requirements.

The UW-La Crosse School Psychology Program is part of the Department of Psychology and the College of Liberal Studies. The program is approved by the Wisconsin Department of Public Instruction (DPI), and has full approval from the National Association of School Psychologists (NASP). Upon completion of all program requirements, students are eligible for certification as a Nationally Certified School Psychologist (NCSP). Graduates of the program are employed in public schools or in educational agencies that serve public schools.

The School Psychology Program prepares graduate students for licensure as school psychologists through academic course work, 700
hours of supervised school practica, and a one-year, 1,200 hour school internship. The school psychology knowledge base includes areas of professional school psychology, educational psychology, psychological foundations, educational foundations, and mental health.

The School Psychology Program adheres to state and national training standards for school psychology. Graduate students must develop professional competencies for each of the 10 DPI/NASP training standards: data-based decision making and accountability; consultation and collaboration; interventions and instructions support to develop social academic skills; interventions and mental health services to develop social and life services; diversity in development and learning; school-wide practices to promote learning; preventative and responsive services; family-school collaboration services; research and program evaluation; and legal, ethical, and professional practice. Over the course of their UW-L training, graduate students will maintain an evolving portfolio that documents professional growth and achieved competence in each of the 10 areas. In addition, students will be evaluated each semester in professional behavior competencies that reflect dispositions in the field.

The emphasis of this program is to train school psychologists who are effective teacher, parent, and school consultants by providing extensive hands-on experiences in a mentor relationship. The program also emphasizes a pupil services model that addresses the educational and mental health needs of all children, from early childhood through high school.

Graduate students are placed in local schools as early and as intensively as possible. During their second, third, and fourth semesters, students spend two days per week working in local schools under the direct supervision of experienced school psychologists. During these school practica, students develop professional skills in assessment, consultation, intervention, counseling, case management, and in each of the NASP standards. Many of the core courses require projects that are completed in the schools during practica.

An information and application packet can be obtained online through the School Psychology Program (http://www.uwlax.edu/School-psychology) or by writing the School Psychology Program Director, Department of Psychology, University of Wisconsin-La Crosse, 1725 State Street, La Crosse, WI 54601, or by sending an e-mail to schoolspsych@uwlax.edu. In addition to meeting all the requirements established for general graduate admissions, students must also meet School Psychology Program requirements before admission to the program. These additional requirements include: three letters of recommendation; scores from the GRE verbal, quantitative, and analytical writing sections; a score from the GRE Psychology subject test (recommended to non-psychology majors); a writing sample; résumé of educational and work experience; a statement of purpose; and a Personal Potential Index (PPI) report through ETS. Students are also expected to participate in an on campus interview as a component of the selection process.

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### 2016-17 Faculty/Staff

The following is the graduate faculty and staff as of the publication date of this catalog. This list will not be updated again until the next catalog is published in June.

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Suthakaran Veerasamy (http://www.uwlax.edu/profile/sveerasamy), Ph.D.

**Administrative Support**

Teresa Znidarsich (http://www.uwlax.edu/profile/tznidarsich)

### Graduate degree

- School psychology - MS (p. 84)

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**Master of Science in Education in School Psychology**

The emphasis of the School Psychology Program is to prepare school psychologists who are effective teacher, parent, and school consultants. Along with consultation, graduate students are trained to provide effective interventions. The program also emphasizes a pupil services model which addresses the educational and mental health needs of all children, from early childhood through high school. The school psychology knowledge base includes areas of professional school psychology, educational psychology, psychological foundations, educational foundations, and mental health. To provide psychological services in educational settings, graduates of the school psychology program must also have considerable knowledge of curriculum, special education, and pupil services.

The Master of Science in Education in school psychology is awarded after the first year of study. You must complete the Educational Specialist degree in school psychology to be licensed to practice in the school system.

### Program requirements

Complete the following requirements for a Master of Science in Education degree in school psychology:

1. Complete 31 graduate credits.
2. A minimum of 15 of the 31 credits need to be completed at the 700 level.
3. Complete the following courses:
   - **SPY 700** School Psychology: Role and Function 3
   - **SPY 757** Psychoeducational Assessment I 3
   - **SPY 775** Behavioral Assessment and Management 3
   - **SPE 501** Introduction to Exceptional Individuals 3
   - **SPY 751** Core Instruction and Classroom Management Practices 3
   - **SPY 761** Orientation to Supervised Practicum in School Psychology 1
   - **SPY 752** Academic & Behavioral Interventions 3
Students earn a 31-credit Master of Science in Education before completing the remaining Education Specialist (p. 86) degree requirements.

### Degree requirements

#### Graduate degree requirements

After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
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PSY - School Psychology Program - Educational Specialist

Education Specialist and Master of Science in Education
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The emphasis of this program is to train school psychologists who are effective teacher, parent, and school consultants by providing extensive hands-on experiences in a mentor relationship. The program also emphasizes a pupil services model that addresses the educational and mental health needs of all children, from early childhood through high school.

Graduate students are placed in local schools as early and as intensively as possible. During their second, third, and fourth semesters, students spend two days per week working in local schools under the direct supervision of experienced school psychologists. During these school practica, students develop professional skills in assessment, consultation, intervention, counseling, case management, and in each of the NASP standards. Many of the core courses require projects that are completed in the schools during practica.

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Administrative Support

Teresa Znidarsich (http://www.uwlax.edu/profile/tznidarsich)

Graduate degree

- Educational Specialist in school psychology - Ed.S. (p. 86)

Educational Specialist in School Psychology

The emphasis of this program is to prepare school psychologists who are effective teacher, parent, and school consultants. Along with consultation, graduate students are trained to provide effective interventions. The program also emphasizes a pupil services model which addresses the educational and mental health needs of all children, from early childhood through high school. The school psychology knowledge base includes areas of professional school psychology,
educational psychology, psychological foundations, educational foundations, and mental health. To provide psychological services in educational settings, graduates of the school psychology program must also have considerable knowledge of curriculum, special education, and pupil services.

Another unique aspect of the UWL School Psychology Program is that graduate students are placed in local schools as early and as intensively as possible. During their second, third, and fourth semesters, students are at local school practicum sites two days per week. From the beginning of practica experiences, students are involved in actual casework. Over the next three semesters, they progress to near independent functioning in all school psychological practices. At practicum placements, students are under the direct supervision of experienced school psychologists. University practicum supervisors also observe practicum students at their school practicum sites. On campus, faculty and students meet individually and in small groups to review cases and activities students are working on at their practicum sites. During these school practica, students develop professional skills in assessment, consultation, intervention, counseling, and case management. Many of the core courses require projects which are completed in the schools during practica. By the end of these practica, students will have more than 700 hours of school experience. After completing all coursework at the university, students complete a 1200 hour internship at sites of their choosing.

Since the inception of the school psychology program, 100% of the students who have completed the program requirements have secured employment as school psychologists. Some graduates also go on to positions in educational administration or related fields.

To practice as a school psychologist, you must complete the Educational Specialist degree.

Program requirements

Complete the following requirements for an Education Specialist degree in school psychology:

1. Complete a minimum of 60 graduate credits (includes capstone project and credits completed for the Master of Science in Education degree), with at least two thirds of these at the 700/800 level.
2. Complete capstone project requirements within seven years of beginning the program.
3. Obtain a passing score (set by the National Association of School Psychology for NCSP certification) on the National School Psychology Examination or a passing score on the comprehensive examinations written by UW-L psychology and school psychology faculty. The UW-L written comprehensive examinations cover the same areas assessed by the National School Psychology Examination. The areas are: data-based decision making, research-based academic practices, research-based behavioral and mental health practices, consultation and collaboration, applied psychological foundations, and ethical, legal, and professional foundations. UW-L comprehensive examinations are offered during the spring semester of each year. Students must pass either the National School Psychology Examination or the UW-L comprehensive exams before being allowed to begin an internship, to obtain a school psychology position, or to apply for an initial school psychology licensure.
4. Complete a professional portfolio that demonstrates achieved competence for each of the 10 NASP training standards.

Curriculum

Psychological foundations (6 credits)
Students are expected to enter the graduate school psychology program with a good understanding of psychological principles. This can be achieved through:

1. Completing an undergraduate psychology major,
2. Completing psychology content classes through elective course offerings, or
3. Remedial activities within specific graduate school psychology courses.

Regardless of background, students are required to have an undergraduate statistics course.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 717</td>
<td>Behavior Disorders in Children</td>
<td>3</td>
</tr>
<tr>
<td>PSY 725</td>
<td>Research &amp; Program Evaluation in Schools</td>
<td>3</td>
</tr>
<tr>
<td>or SPE 715</td>
<td>Special Education and the Law</td>
<td></td>
</tr>
</tbody>
</table>

Total Credits 6

Educational foundations (12 credits)
Complete one course in each of the following areas. Course work completed at the undergraduate level need not be repeated. At least six credits must be completed at the graduate level.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>EFN 705</td>
<td>Human Relations in School and Society</td>
<td>3</td>
</tr>
<tr>
<td>SPE 401/501</td>
<td>Introduction to Exceptional Individuals</td>
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<tr>
<td>EFN 716</td>
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<tr>
<td>or SPE 715</td>
<td>Special Education and the Law</td>
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<td>RDG 703</td>
<td>Literacy Assessment and Instruction</td>
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</tr>
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<td>RDG 712</td>
<td>Critical Issues in Reading Difficulties</td>
<td>3</td>
</tr>
<tr>
<td>RDG 713</td>
<td>Advanced Literacy Assessment and Instruction</td>
<td>3</td>
</tr>
</tbody>
</table>

Or electives approved by the school psychology program director

Total Credits 12

Core professional training (49 credits)
Complete each of the following courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPY 700</td>
<td>School Psychology: Role and Function</td>
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<tr>
<td>SPY 751</td>
<td>Core Instruction and Classroom Management Practices</td>
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<td>SPY 752</td>
<td>Academic &amp; Behavioral Interventions</td>
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<td>PSY 756</td>
<td>Early Childhood Assessment 1</td>
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<td>SPY 757</td>
<td>Psychoeducational Assessment I 1</td>
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<td>SPY 758</td>
<td>Psychoeducational Assessment II</td>
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<td>PSY 759</td>
<td>Assessment of Personality and Emotional/Behavioral Disorders 1</td>
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<td>SPY 761</td>
<td>Orientation to Supervised Practicum in School Psychology</td>
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<td>SPY 762</td>
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<td>PSY 772</td>
<td>Counseling &amp; Therapy Methods</td>
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<td>PSY 773</td>
<td>Advanced Counseling &amp; Therapy Methods</td>
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<td>SPY 775</td>
<td>Behavioral Assessment and Management</td>
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</tr>
<tr>
<td>PSY 776</td>
<td>Psychological Consultation &amp; Collaboration</td>
<td>3</td>
</tr>
</tbody>
</table>
Capstone project requirements

Select one of the following options:

**Option 1:**
- SPY 800 Specialist Thesis Proposal
- SPY 801 Specialist Thesis

**Option 2:**
- SPY 802 Research/Specialist Project
- SPY 803 Case Conceptualization Project

Licensure, practicum, internship, and capstone project requirements

Initial Educator Licensure in Wisconsin is granted after completion of all Education Specialist (EDS) degree requirements, excepting the school psychology internship and the capstone project. Students are eligible for Professional Educator Licensure in Wisconsin upon completion of the EDS degree, which includes the internship capstone project. Students who complete only the master’s degree are not eligible for licensure as a school psychologist.

Students must complete three semesters of a supervised school psychology practicum. During practicum experiences students develop school psychology professional knowledge, skills, and behavior. Core professional skills, as well as professional behavior, are critical to effective school psychology functioning. Thus, only students who have successfully completed all prerequisite course work (no incompletes) are allowed to enroll for practica. In addition, appropriate professional behavior and personal effectiveness are required for continued enrollment in practica and the program.

Internships must be in a school setting, total 1,200 hours, and be supervised by a certified school psychologist and a UW-L school psychology instructor. A site visit from the university supervisor is required each semester. All interns must pay all actual costs associated with each semester’s site visit, including travel, lodging, and meals.

To complete the capstone project requirements, students complete either

1. A research/specialist project and a case conceptualization project or

While students are expected to complete this requirement prior to internship, if a student has not successfully completed all elements of the capstone, the student must register for graduate credits until the project components are successfully completed.

For additional school psychology program policies, students should refer to the “School Psychology Graduate Student Handbook” available in the School Psychology Office, 341 Graff Main Hall.

Degree requirements

Graduate degree requirements

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
The Master of Science in Recreation Management Program prepares students for positions in public, private, and commercial recreation agencies. The curriculum consists of learning experiences critical for assuming high-level management positions in the leisure service profession.

This program is designed to provide students with individualized continuing education to develop competencies specifically related to recreation career development and professional growth. The emphasis is on individualizing the student’s program.

Graduates are prepared to:
- Plan, develop, and manage recreation programs in public and private agencies, commercial enterprises, and tourism business
- Use diverse community, natural, institutional, and human service resources to enhance programs
- Apply common and innovative management techniques for budgets, service pricing, cost analysis, business feasibility, market analysis, and promotions
- Use leadership strategies to strengthen leisure experiences for all, including those with special needs
- Apply evaluation, survey, and research methods to ensure continued improvement in leisure services
- Apply management techniques for recruitment, selection, training, and evaluation of staff and volunteers

Graduates are employed in:
- Local recreation and park agencies; federal natural resource agencies
- Resorts, cruise ships, ski resorts, private campgrounds, and hospitality and travel industries
- Private corporations and tourism agencies
- Health clubs and recreational fitness centers
- Youth agencies
- Boy Scouts, Girl Scouts, YM/YWCA
- Condominium developments, convention/visitor bureaus, ice arenas, marinas, golf courses, and theme parks

The Master of Science is also available in therapeutic recreation (p. 91).

2016-17 Faculty/Staff

The following is the graduate faculty and staff as of the publication date of this catalog. This list will not be updated again until the next catalog is published in June.

Professor
Jearold Holland, Ph.D.
allow me to direct my own studies. The faculty were outstanding, providing me with the right tools and guidance to accomplish everything I desired."

Michael Maningas, 2000 Graduate

Program requirements

Admission

The program welcomes students without an undergraduate degree in recreation, but some prerequisite courses may be required. Students may take deficiency courses prior to beginning the graduate program or they may begin the program and take the courses within the first two semesters of their graduate program.

Prerequisite courses include:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>REC 301</td>
<td>Leadership and Programming in Recreation</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>demonstrated experience in recreation programming</td>
<td></td>
</tr>
<tr>
<td>MTH 145</td>
<td>Elementary Statistics</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>7</td>
</tr>
</tbody>
</table>

If all of the above courses have not been previously taken, the recreation graduate program director will determine program deficiencies on an individual basis. The review will be based on previously taken courses as well as prior work experience. The graduate program director also will determine which deficiency courses need to be taken for credit (auditing of courses might also be recommended).

Curriculum

(30 credits)

Required courses (15 credits):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>REC 520</td>
<td>Revenue Management in Recreation Enterprises</td>
<td>3</td>
</tr>
<tr>
<td>REC 701</td>
<td>Philosophical Foundations of Leisure, Play and Recreation</td>
<td>3</td>
</tr>
<tr>
<td>REC 710</td>
<td>Entrepreneurship in Recreation</td>
<td>3</td>
</tr>
<tr>
<td>REC 711</td>
<td>Management of Leisure Services Organizations</td>
<td>3</td>
</tr>
<tr>
<td>REC 720</td>
<td>Research Methods for Recreation, Parks, and Leisure</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

Research options (6 credits):

Select one:

- **Option A - thesis**
  - REC 799 Research: Master’s Thesis 6

- **Option B - graduate project**
  - REC 761 Graduate Project in Recreation 6

- **Option C - internship**
  - REC 700 Internship in Guided Learning 6

Elective courses (9 credits):

Recommended elective graduate courses in the department of recreation management and therapeutic recreation include:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>REC 500</td>
<td>Planning for Park and Recreation Facilities</td>
<td>3</td>
</tr>
<tr>
<td>REC 502</td>
<td>Risk Management in Leisure Service Organizations</td>
<td>3</td>
</tr>
<tr>
<td>REC 504</td>
<td>Budgeting in the Recreation Enterprise</td>
<td>3</td>
</tr>
<tr>
<td>REC 581</td>
<td>Outdoor Pursuits</td>
<td>1-3</td>
</tr>
</tbody>
</table>

Degree requirements

Graduate degree requirements

After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)
REC - Therapeutic Recreation
Graduate Program

Therapeutic Recreation
Director: Kate Evans
2042 Health Science Center; 608.785.8210
Email: kevans@uwlax.edu

http://www.uwlax.edu/therapeutic-recreation-ms/

The Master of Science in Therapeutic Recreation Program prepares students for certification as Therapeutic Recreation Specialists. Students learn to develop and implement treatment, leisure education, and recreation programs for individuals with special needs.

Graduates are prepared to:
• Assess the need for therapeutic recreation intervention
• Plan and evaluation individual and group treatment, leisure education and recreation participation programs
• Supervise interdisciplinary teams and human service providers
• Organize and manage services
• Direct outreach, advocacy, and public relations activities
• Assist individuals in the development of life-long leisure independence
• Address therapeutic recreation professionalization issues
• Take the national examination to become a Certified Therapeutic Recreation Specialist
• Use advanced knowledge as a clinical administrator or consultant

Graduates are employed in:
• Hospitals and physical rehabilitation facilities
• County, state, and national mental health treatment centers
• Residential settings
• Long-term care or nursing home facilities
• Community-based centers and human service agencies
• Recreation agencies, including national associations for disabled sport competitors (i.e., Special Olympics)
• Human service areas needing therapeutic recreation consultants

The Master of Science is also available in recreation management (p. 89).

Assistant Professor
Katherine Evans, Ph.D.
Kari Kensing, Ph.D.
Brian Kumm-Schaley, Ph.D.
Daniel Plunkett, Ph.D.

Senior Lecturer
Daniel Widuch, M.S.Ed.

Lecturer
Lisa Savarese, M.S.

Associate Lecturer
Tara DeLong, M.S.

Administrative Support
Janet Craig, Academic Department Associate
Maureen Nelson

Graduate degree
• Therapeutic recreation - MS (p. 91)

Therapeutic Recreation - Master of Science

Welcome to the Therapeutic Recreation Graduate Program at UWL

http://www.uwlax.edu/therapeutic-recreation-ms/

The Master of Science in Therapeutic Recreation is a comprehensive program of study designed to prepare graduates for careers in the multifaceted field of therapeutic recreation. Our dual track curriculum serves two kinds of the students, the certified therapeutic recreation specialist (CTRS) seeking advanced training in therapeutic recreation as well as the student who wants to enter the therapeutic recreation profession by completing his or her masters degree. All students completing a masters at UWL meet all criteria for sitting for the national therapeutic recreation examination.

Please visit the websites that introduce you to the therapeutic recreation program, our graduate faculty, and the opportunities at the University of Wisconsin-La Crosse.

For more information please contact:
Kate Evans, Ph.D.,
kevans@uwlax.edu
608.785.8210

Thank you for your interest.

"The program is excellent and prepares you for working in any population as a Therapeutic Recreation Specialist. The professors are very knowledgeable and often went above and beyond to help me."

Angelica Granger, class of 2009
Program requirements

Admission

Students without a previous background in therapeutic recreation, as well as those who are certification eligible as a Certified Therapeutic Recreation Specialist by the National Council for Therapeutic Recreation Certification, will be admitted into the program after fulfilling university graduate school admission requirements. Students without backgrounds in therapeutic recreation will only be admitted in the Fall semester. Deficiencies will be determined based on the student’s educational background and work experience.

There are minimum undergraduate prerequisite course and competency requirements for admission to the Master of Science degree program in therapeutic recreation.

Prerequisite courses (or equivalent knowledge):

- MTH 145 Elementary Statistics 4
- ESS 205 Human Anatomy and Physiology for Exercise Science I 3
- PSY 204 Abnormal Psychology 3
- PSY 212 Lifespan Development 3

The above courses may be taken at the University of Wisconsin-La Crosse during the first two semesters of the graduate program.

Prerequisite competency:

Knowledge of and experience with a disability group in a therapeutic recreation setting (minimum 50 documented hours of acceptable experience).

National Council for Therapeutic Recreation Certification exam

To become eligible to sit for the National Council for Therapeutic Recreation Certification (http://nctrc.org) (NCTRC) exam through the professional academic path, a total of 18 semester units or 27 quarter units of supportive course work must be successfully completed with at least three units in the content of abnormal psychology, three units in the content of anatomy and physiology, and three units in the content area of human growth and development across the lifespan. The remaining semester units or quarter units of course work must be fulfilled in the content of “human services” as defined by NCTRC (human services is defined to include courses supportive to the practice of therapeutic recreation such as: psychology, sociology, related biological/ physical sciences, adaptive physical education, special education, education, ethics and other disciplines of study supportive to the practice of therapeutic recreation). Students must fulfill the most current NCTRC requirements for certification eligibility. Fulfilling the most recent NCTRC requirements for eligibility is the responsibility of the student.

Curriculum

(30-36 credits)

Upon admission, the student will be classified into one of two groups based upon previous academic background, certification status, and professional experience in the field of therapeutic recreation. The student will be classified either as a

- Student without a previous background in therapeutic recreation or
- Student with a previous background (certification eligible) in therapeutic recreation.

Program of study for a student with a background (certification eligible) in therapeutic recreation:

The program of study involves a minimum of 30 credits. A program of study includes the required courses, one of two capstone experiences, and electives. The program of study will be jointly developed by the student and the Therapeutic Recreation Program Director.

Required courses (15 credits):

- REC 701 Philosophical Foundations of Leisure, Play and Recreation 3
- REC 711 Management of Leisure Services Organizations 3
- REC 720 Research Methods for Recreation, Parks, and Leisure 3
- RTH 593 Therapeutic Recreation Trends and Issues 3
- RTH 730 Advanced Clinical Aspects/Therapeutic Recreation 3

Total Credits 15

Capstone Experience:

Students with a therapeutic recreation background must select one of two research options as the capstone experience to their graduate program. The options are:

Option A - thesis
- REC 799 Research: Master’s Thesis 6

Option B - graduate project
- REC 761 Graduate Project in Recreation 3-6

Elective courses

Additional elective courses may be required to fulfill the minimum number of credits (30) to graduate. The elective course(s) will be determined jointly by the student and the Therapeutic Recreation Program Director.

Program of study for a student without a previous background in therapeutic recreation:

FALL SEMESTER ADMISSION ONLY

This program of study requires 36 credits. The program of study includes the required graduate courses and internship capstone experience. Additional credit(s) may be required to fulfill the sitting requirements of the NCTRC. A program of study will be developed by the student and the Therapeutic Recreation Program Director.

Required courses (36 credits):

- REC 701 Philosophical Foundations of Leisure, Play and Recreation 3
- REC 711 Management of Leisure Services Organizations 3
- REC 720 Research Methods for Recreation, Parks, and Leisure 3
- RTH 556 Program Design and Administration of Therapeutic Recreation 3
- RTH 570 Facilitation Techniques in Therapeutic Recreation 3
- RTH 576 Assessment and Treatment Planning in Therapeutic Recreation 3
- RTH 580 Leisure Education 3
- RTH 593 Therapeutic Recreation Trends and Issues 3
RTH 700 Internship in Therapeutic Recreation 6
RTH 702 Foundations in Therapeutic Recreation 3
RTH 730 Advanced Clinical Aspects/Therapeutic Recreation 3

Total Credits 36

At the discretion of the Therapeutic Recreation Program Director, previously taken equivalent undergraduate courses may not have to be repeated on the graduate level. Students who have required coursework waived must still earn at least 30 applicable graduate credits to complete the degree.

Capstone Experience
For students without a therapeutic recreation background, their internship (RTH 700) is the required capstone experience. These students may, if they choose, also complete a thesis or graduate project, but neither is required.

Degree requirements
Graduate degree requirements

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed “Intent to Graduate” form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)
SOE - Professional Studies in Education Graduate Programs

ME-PD Learning Community Program
Educational Leadership Certificate Program
English Language Arts Elementary Certificate Program
Professional Learning Community Certificate Program

Director: Patricia Markos
269 Morris Hall; 608.785.5087
Email: pmarkos@uwlaX.edu

https://www.uwlaX.edu/professional-studies-in-education/

The Master of Education-Professional Development Learning Community Program is designed for certified teachers as well as educators from other countries and professionals from other fields seeking to meet desired professional advancement goals or graduate students wishing to pursue a master’s degree for other career goals. The ME-PD Learning Community option does not grant teacher certification/licensure.

The ME-PD Learning Community Program is a fully accredited master's degree program in the School of Education, Professional and Continuing Education. Its unique field-based format with an integrated and spiraled curriculum sets it apart from many traditional graduate degree programs. The format is based on Adult Learning Theory and a learning-in-community, constructivist philosophy that embraces the unique needs of adult learners. The ME-PD Learning Community Program is facilitated by a team of educators who have experience in this delivery model as well as PK-16 teaching experience and expertise in the core curriculum.

Certificate programs in Educational Leadership (p. 95), Professional Learning Community, (p. 96) and English Language Arts Elementary (p. 96) are also available.

2016-17 Faculty/Staff

The following is the graduate faculty and staff as of the publication date of this catalog. This list will not be updated again until the next catalog is published in June.

Associate Lecturers
Kelly Demerath
Carla Hacker
Jeffrey Hansen
Amy Haase
Tami Hillestad
Shelly Long
Bonnie Roscovius
Tom Roy
Tim Sprain
Tracy Taylor-Johnson
John Weiland

Administrative Support
Cindy George, Marketing Outreach Specialist
Heidi Janzen. IPSE Coordinator
Patricia Markos, Director
Sheila Wirkus, Facilitator Development Support Specialist

Graduate degree
- Professional development learning community - ME-PD (p. 94)

Certificates
- Educational leadership - certificate program (p. 95)
- English language arts elementary - certificate program (p. 96)
- Professional learning community - certificate program (p. 96)

Professional Development Learning Community - Master of Education-Professional Development

The Master of Education-Professional Development Learning Community Program is a 30-credit degree program offered in face-to-face, hybrid, and online delivery formats. The face-to-face program meets twenty weekends (15 hours/weekend) over two years. The hybrid program combines ten face-to-face meetings with online delivery over two years. The online program combines three semesters of online delivery with two summer institutes over eighteen months. Learners are expected to apply their knowledge, skills, and dispositions to the professional work setting (minimum of four hours/week) and to communicate via an online communication system (minimum of two hours/week). Face-to-face and hybrid learning communities may begin in the fall or spring semester. Online communities may have spring or summer start times. The curriculum is integrated and spiraled throughout each semester and facilitated by a team of educators to communities of 10-15 students. A classroom action research project/ seminar paper and professional development plan portfolio are the culminating projects of this program.

Our vision: A leader in educational transformation.

Our mission: To build a Master Teachers Community dedicated to improving the craft of teaching in order to help all students reach their highest potential.

Learning outcomes: Every UWL ME-PD Learning Community graduate will...
1. Improve content and pedagogical knowledge
2. Experience professional and personal transformation
3. Conduct action research
4. Utilize authentic assessment
5. Exhibit teacher leadership
6. Improve pre K-16 student learning
7. Support pre K-16 student development and self efficacy
8. Create and sustain a professional learning community
Program requirements

Curriculum

(30 credits)

The ME-PD Online Learning Community Program starts in either the spring or summer terms. Sequested courses occur over 5 academic terms, three semesters and two summer terms. To view the current online sequence (http://www.masterteacherscommunity.org/programs/online-program), visit the ME-PD Online Learning Community Program’s website.

Required courses (listed in numerical order)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU 601</td>
<td>Learning in Community I: Introduction</td>
<td>1</td>
</tr>
<tr>
<td>EDU 602</td>
<td>Learning in Community II: Exploration</td>
<td>1</td>
</tr>
<tr>
<td>EDU 611</td>
<td>Technology in Education I: Introduction</td>
<td>1</td>
</tr>
<tr>
<td>EDU 612</td>
<td>Technology in Education II: Exploration</td>
<td>1</td>
</tr>
<tr>
<td>EDU 621</td>
<td>Best Practice Pedagogy I: Introduction</td>
<td>1</td>
</tr>
<tr>
<td>EDU 622</td>
<td>Best Practice Pedagogy II: Exploration</td>
<td>1</td>
</tr>
<tr>
<td>EDU 631</td>
<td>Curriculum Development and Assessment I: Introduction</td>
<td>1</td>
</tr>
<tr>
<td>EDU 632</td>
<td>Curriculum Development and Assessment II: Exploration</td>
<td>1</td>
</tr>
<tr>
<td>EDU 641</td>
<td>Educational Research I: Introduction</td>
<td>1</td>
</tr>
<tr>
<td>EDU 642</td>
<td>Educational Research II: Exploration</td>
<td>2</td>
</tr>
<tr>
<td>EDU 651</td>
<td>Democracy, Diversity and Social Justice in Education I: Introduction</td>
<td>1</td>
</tr>
<tr>
<td>EDU 652</td>
<td>Democracy, Diversity and Social Justice in Education II: Exploration</td>
<td>1</td>
</tr>
<tr>
<td>EDU 661</td>
<td>Teacher Leadership I: Introduction</td>
<td>1</td>
</tr>
<tr>
<td>EDU 662</td>
<td>Teacher Leadership II: Exploration</td>
<td>1</td>
</tr>
<tr>
<td>EDU 703</td>
<td>Learning in Community III: Integration</td>
<td>1</td>
</tr>
<tr>
<td>EDU 704</td>
<td>Learning in Community IV: Action</td>
<td>1</td>
</tr>
<tr>
<td>EDU 713</td>
<td>Technology in Education III: Integration</td>
<td>1</td>
</tr>
<tr>
<td>EDU 714</td>
<td>Technology in Education IV: Action</td>
<td>1</td>
</tr>
<tr>
<td>EDU 723</td>
<td>Best Practice Pedagogy III: Integration</td>
<td>1</td>
</tr>
<tr>
<td>EDU 724</td>
<td>Best Practice Pedagogy IV: Action</td>
<td>1</td>
</tr>
<tr>
<td>EDU 733</td>
<td>Curriculum Development and Assessment III: Integration</td>
<td>1</td>
</tr>
</tbody>
</table>

EDU 734     | Curriculum Development and Assessment IV: Action | 1       |

EDU 743     | Educational Research III: Conduct                 | 1       |

EDU 744     | Educational Research IV: Publication              | 2       |

EDU 753     | Democracy, Diversity and Social Justice in Education II: Integration | 1   |

EDU 754     | Democracy, Diversity and Social Justice in Education IV: Action | 1   |

EDU 763     | Teacher Leadership III: Integration               | 1       |

EDU 764     | Teacher Leadership IV: Action                     | 1       |

Total Credits 30

The ME-PD Learning Community Program’s total of 30 credits includes two culminating projects:

1. A classroom action research/seminar paper.
2. A professional portfolio showcasing the completed professional development plan.

Degree requirements

Graduate degree requirements

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed “Intent to Graduate” form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

Educational Leadership Certificate

The Educational Leadership Certificate is a 28-credit program for teachers, school counselors, school psychologists, and school social workers with a minimum of a master’s degree seeking PK-12 Principal (5051) licensure through the WI Department of Public Instruction. The philosophy of the program is a learning-in-community, constructivist model with culturally relevant teaching. Students join in a cohort. The program meets the Interstate School Leaders Licensure Consortium (ISLLC) standards, the Wisconsin Administrative Standards, and professional educational requirements for principal licensure in Wisconsin. An administrative portfolio is required for program completion and licensure.

Program requirements

Admission requirements

1. A master’s degree in education or closely related field from an accredited institution.
2. Have completed three years of successful full-time teaching experience at any of the grades at the early childhood through adolescence developmental range, OR have completed three
years of successful experience as a school counselor, a school psychologist, or a school social worker, which includes evidence of at least 540 hours of successful classroom teaching experience.

3. Hold or be eligible to hold any Professional Educator License to teach at the early childhood through adolescence developmental range or shall have completed an approved program leading to a license to teach, OR hold or be eligible to hold a Professional Educator License as a school counselor, a school psychologist, or a school social worker, or shall have completed an approved program leading to one of these licenses.

4. One of the following:
   a. An overall undergraduate grade point average of at least 2.85 on a 4.00 scale, or
   b. An average of at least 3.00 in the last half of all undergraduate work, or
   c. An average of at least 3.00 for no fewer than 12 semester credits of graduate study at another accredited graduate institution.

5. Complete online application.

6. Original transcripts.

7. Two professional letters of recommendation.

8. Copy of applicant’s teacher or administrator license.

9. Provide verification that degrees completed outside the state meet WI teaching standards.

Curriculum

**Required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU 765</td>
<td>Introduction to Educational Leadership</td>
<td>3</td>
</tr>
<tr>
<td>EDU 766</td>
<td>The Principalship</td>
<td>3</td>
</tr>
<tr>
<td>EDU 767</td>
<td>Data-based Decision Making for Instruction</td>
<td>3</td>
</tr>
<tr>
<td>EDU 768</td>
<td>Supervision and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>EDU 769</td>
<td>Leadership and Cultural Competence</td>
<td>3</td>
</tr>
<tr>
<td>EDU 770</td>
<td>School Law</td>
<td>3</td>
</tr>
<tr>
<td>EDU 771</td>
<td>School Finance &amp; Resource Allocation</td>
<td>3</td>
</tr>
<tr>
<td>EDU 772</td>
<td>Inclusive Pedagogical Practices</td>
<td>3</td>
</tr>
<tr>
<td>EDU 773</td>
<td>Practicum in the Principalship &amp; Practicum Seminar</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Credits 28

An administrative portfolio is required for program completion and licensure.

**English Language Arts Elementary Certificate**

The English Language Arts Elementary Certificate Program consists of six 2-credit graduate courses that include content in reading literature, reading informational text, reading foundational skills, writing, speaking and listening, language, and digital literacy.

The primary objectives of the English Language Arts Elementary Certificate Program are to

1. Develop and increase teachers’ knowledge and understanding of the Common Core English language arts standards for elementary grades;

2. Develop and increase teachers’ knowledge of and expertise with instructional strategies, including technology, to implement the Common Core English language arts standards effectively; and

3. Design and evaluate assessments that inform their instruction of the Common Core English language arts standards.

**Program requirements**

**Admission**

1. A baccalaureate degree from an accredited institution.

2. One of the following:
   a. An overall undergraduate grade point average of at least 2.85 on a 4.00 scale, or
   b. An average of at least 3.00 in the last half of all undergraduate work, or
   c. An average of at least 3.00 for no fewer than 12 semester credits of graduate study at another accredited graduate institution.

**Curriculum**

(Six 2-credit courses aligned with the content from the Common Core State Standards)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU 715</td>
<td>Common Core Assessment in English Language Arts Elementary</td>
<td>2</td>
</tr>
<tr>
<td>EDU 716</td>
<td>Effective Communication Through Language</td>
<td>2</td>
</tr>
<tr>
<td>EDU 717</td>
<td>Foundation of Literacy for Professional Educators</td>
<td>2</td>
</tr>
<tr>
<td>EDU 718</td>
<td>Writing and Language Exploration</td>
<td>2</td>
</tr>
<tr>
<td>EDU 719</td>
<td>Research Based Best Practice in Reading</td>
<td>2</td>
</tr>
<tr>
<td>EDU 720</td>
<td>Digital Literacy and the Common Core</td>
<td>2</td>
</tr>
</tbody>
</table>

Total Credits 12

**Professional Learning Community Certificate**

The Professional Learning Community (PLC) Certificate Program consists of four graduate courses that include content in the foundational framework and history of PLCs, essential components of PLCs, research on PLCs, the role of assessments, evaluations and grading within a PLC framework, analysis of various forms of assessments, identification and evaluation of instructional practices that lead to higher student achievement, designing assessments that inform practice, examining various school cultures, and developing a plan to improve a school’s culture.

The primary objectives of the Professional Learning Community Certificate are to:

1. Develop and increase teachers’ knowledge and understanding of the Professional Learning Communities (PLCs);

2. Develop and increase teachers’ knowledge of and expertise with instructional strategies, including technology, to implement the Professional Learning Community outcomes effectively; and

3. Design and evaluate assessments that inform their instruction of the Professional Learning Community outcomes.

**Program requirements**

**Admission**

1. A baccalaureate degree from an accredited institution.

2. One of the following:
a. An overall undergraduate grade point average of at least 2.85 on a 4.00 scale, or
b. An average of at least 3.00 in the last half of all undergraduate work, or
c. An average of at least 3.00 for no fewer than 12 semester credits of graduate study at another accredited graduate institution.

**Curriculum**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>EDU 735</td>
<td>Foundations of Professional Learning Communities</td>
<td>3</td>
</tr>
<tr>
<td>EDU 736</td>
<td>Assessments, Grading and Professional Learning Communities</td>
<td>3</td>
</tr>
<tr>
<td>EDU 737</td>
<td>Teacher Leadership-Professional Learning Communities</td>
<td>3</td>
</tr>
<tr>
<td>EDU 738</td>
<td>Professional Learning Community in the Content Areas</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits 12
SOE - Reading Graduate Program

Reading MSED with Non-Certification Program
Reading MSED with Reading Teacher (1316) Certification Program
Reading MSED with Reading Teacher (1316) and Reading Specialist (5017) Certification Program
Reading Teacher (1316) Add-On Certification Program
Interim Director: Adrienne Loh
335B Morris Hall; 608.785.8275
Email: aloh@uw lax.edu

http://www.uwlax.edu/reading-msed/

The online UW-La Crosse Master of Science in Education in Reading Program is dedicated first and foremost to preparing graduate students who serve communities, families, students, schools and fellow educators as leaders in literacy education.

Through preparation and experiences in developmental and exceptional literacy instruction and assessment, students in the Master of Science in Education in Reading Program develop their knowledge, skills, and dispositions as classroom teachers of reading, as Title I or other Reading teachers, or as Reading Specialists or Consultants/Coaches for schools and/or districts.

Graduates of the Reading Program at UW-La Crosse are prepared:
1. To model current and authentic best practice in K-12 literacy education;
2. To seek and identify current research-based strategies and resources;
3. To provide services and support in literacy assessment, diagnosis, and evaluation;
4. To remain accountable to constituent groups;
5. And to advocate for students, families, and colleagues.

The Reading Program philosophy reflects the Standards for Reading Professionals of the International Literacy Association (ILA) and the Interstate Teacher Assessment and Support Consortium (InTASC) Standards of the Wisconsin Department of Public Instruction, and is based on current research and best practice in the fields of literacy and reading. The specialized knowledge, skills, and dispositions emphasized in the Reading Program reflect the ILA Standards for Reading Professionals (revised 2010).

Graduate degrees
- Reading - MSED - non-certification (p. 98)
- Reading - MSED - reading teacher (1316) certification (p. 100)
- Reading - MSED - reading teacher (1316) and reading specialist (5017) certification (p. 99)

Certification
- Reading teacher (1316) add-on certification (p. 101)

Reading - Master of Science in Education - Non-certification

This multifaceted, online Master of Science in Education in Reading Program is designed to meet the needs of educators who are interested in ongoing professional development in reading education. At least 15 credits need to be at the 700 or above level.

Program requirements

Admission

Applicants for admission to any of the graduate Reading Program tracks (including international students applying to the Master of Science without certification program) must meet all the requirements established for general admission to graduate studies at UW-L.

In addition, applicants to one of the Reading Program tracks with certification (Reading Teacher with Master of Science, Reading Teacher and Specialist with Master of Science, Reading Teacher Add-On Certification) must also submit copies of teaching licenses or certificates. Applicants to these programs who do not have a teaching license or certificate must show proof of:
- Completion of student teaching or equivalent in pre K-12 schools,
- Completion of a baccalaureate degree
- Eligibility to be certified or licensed as a pre K-12 teacher

Reading Teacher (1316) or Reading Specialist (5017) certification is contingent upon:
- Satisfactory completion of appropriate Reading Program coursework, associated experiences, and artifacts (thesis, portfolio, etc.)
- Passing score on the Foundations of Reading Test (FoRT; score of 240 or higher),
- Successful completion of at least two years of teaching at the pre K-12 level.

Curriculum

(30 credits)

Required courses (19-21 credits)
- EDS 600 Research in Education 3
- RDG 601 Literacy and Language Development for Diverse Learners 3
- RDG 702 Reading and Literacy in the Content Areas 3
- RDG 703 Literacy Assessment and Instruction 3
- RDG 712 Critical Issues in Reading Difficulties 3
- RDG 714 Literacy Practicum 1-3
- RDG 715 Children’s and Adolescent Literature 3
- Master's thesis (required) 3-6
- RDG 799 Master’s Thesis

Electives (select as many needed to total 30 credits in program) 3-8
- RDG 711 Research Methods in Reading
- RDG 713 Advanced Literacy Assessment and Instruction
- RDG 716 Special Topics Seminar in Reading Education
- TSL 500 Teaching English to Speakers of Other Languages (TESOL) Policies and Program Models
- TSL 550 TESOL National/International Internship Program
- TSL 563 Teaching English to Speakers of Other Languages (TESOL) Methods
- CI 695 Supervision of Student Teaching
Degree requirements
Graduate degree requirements
After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed “Intent to Graduate” form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

Curriculum
(37 credits)

Required courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDS 600</td>
<td>Research in Education</td>
<td>3</td>
</tr>
<tr>
<td>RDG 601</td>
<td>Literacy and Language Development for Diverse Learners</td>
<td>3</td>
</tr>
<tr>
<td>RDG 702</td>
<td>Reading and Literacy in the Content Areas</td>
<td>3</td>
</tr>
<tr>
<td>RDG 703</td>
<td>Literacy Assessment and Instruction</td>
<td>3</td>
</tr>
<tr>
<td>RDG 711</td>
<td>Research Methods in Reading</td>
<td>3</td>
</tr>
<tr>
<td>RDG 712</td>
<td>Critical Issues in Reading Difficulties</td>
<td>3</td>
</tr>
<tr>
<td>RDG 713</td>
<td>Advanced Literacy Assessment and Instruction</td>
<td>3</td>
</tr>
<tr>
<td>RDG 714</td>
<td>Literacy Practicum</td>
<td>1-3</td>
</tr>
<tr>
<td>RDG 715</td>
<td>Children’s and Adolescent Literature</td>
<td>3</td>
</tr>
<tr>
<td>RDG 718</td>
<td>Guiding and Directing a School-Wide Reading/Literacy Program</td>
<td>3</td>
</tr>
<tr>
<td>RDG 719</td>
<td>Administrative Portfolio for Reading Specialist Licensure</td>
<td>1</td>
</tr>
<tr>
<td>RDG 799</td>
<td>Master’s Thesis</td>
<td>3-6</td>
</tr>
<tr>
<td>CI 695</td>
<td>Supervision of Student Teaching</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: 37

For licensure, candidates must also have earned a passing score (240) on the Foundations of Reading Test (FoRT) and have completed two years of successful teaching in pre K-12 schools.

Degree requirements
Graduate degree requirements
After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved for separate deadline for written capstone experience.)

Reading - Master of Science in Education - Reading Teacher & Reading Specialist Certifications
This multifaceted, online Master of Science in Education in Reading Program is designed to meet the needs of educators who are interested in (a) ongoing professional development in reading education, (b) certification in the State of Wisconsin as a Reading Teacher (1316) license, and (c) certification in the State of Wisconsin as a Reading Specialist (administrative) (5017) license.

Program requirements
Admission

Applicants for admission to any of the graduate Reading Program tracks (including international students applying to the Master of Science without certification program) must meet all the requirements established for general admission to graduate studies at UWL.

In addition, applicants to one of the Reading Program tracks with certification (Reading Teacher with Master of Science, Reading Teacher and Specialist with Master of Science, Reading Teacher Add-On Certification) must also submit copies of teaching licenses or certificates. Applicants to these programs who do not have a teaching license or certificate must show proof of:

- Completion of student teaching or equivalent in pre K-12 schools,
- Completion of a baccalaureate degree
- Eligibility to be certified or licensed as a pre K-12 teacher

Reading Teacher (1316) or Reading Specialist (5017) certification is contingent upon:

- Satisfactory completion of appropriate Reading Program coursework, associated experiences, and artifacts (thesis, portfolio, etc.)
- Passing score on the Foundations of Reading Test (FoRT; score of 240 or higher),
- Successful completion of at least two years of teaching at the pre K-12 level.

Total Credits: 37

For licensure, candidates must also have earned a passing score (240) on the Foundations of Reading Test (FoRT) and have completed two years of successful teaching in pre K-12 schools.
by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.

6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intercession should file by May 1. May and summer graduates should file by December 1.

7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.

8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

---

Reading - Master of Science in Education - Reading Teacher Certification

This multifaceted, online Master of Science in Education in Reading Program is designed to meet the needs of educators who are interested in (a) ongoing professional development in reading education and (b) certification in the State of Wisconsin as a Reading Teacher (1316 license).

Program requirements

Admission

Applicants for admission to any of the graduate Reading Program tracks (including international students applying to the Master of Science without certification program) must meet all the requirements established for general admission to graduate studies at UWL.

In addition, applicants to one of the Reading Program tracks with certification (Reading Teacher with Master of Science, Reading Teacher and Specialist with Master of Science, Reading Teacher Add-On Certification) must also submit copies of teaching licenses or certificates. Applicants to these programs who do not have a teaching license or certificate must show proof of:

- Completion of student teaching or equivalent in pre K-12 schools,
- Completion of a baccalaureate degree
- Eligibility to be certified or licensed as a pre K-12 teacher

Reading Teacher (1316) or Reading Specialist (5017) certification is contingent upon:

- Satisfactory completion of appropriate Reading Program coursework, associated experiences, and artifacts (thesis, portfolio, etc.)
- Passing score on the Foundations of Reading Test (FoRT; score of 240 or higher),
- Successful completion of at least two years of teaching at the pre K-12 level.

---

Curriculum

(30 credits minimum)

**Required courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDS 600</td>
<td>Research in Education</td>
<td>3</td>
</tr>
<tr>
<td>RDG 601</td>
<td>Literacy and Language Development for Diverse Learners</td>
<td>3</td>
</tr>
<tr>
<td>RDG 702</td>
<td>Reading and Literacy in the Content Areas</td>
<td>3</td>
</tr>
<tr>
<td>RDG 703</td>
<td>Literacy Assessment and Instruction</td>
<td>3</td>
</tr>
<tr>
<td>RDG 711</td>
<td>Research Methods in Reading</td>
<td>3</td>
</tr>
<tr>
<td>RDG 712</td>
<td>Critical Issues in Reading Difficulties</td>
<td>3</td>
</tr>
<tr>
<td>RDG 713</td>
<td>Advanced Literacy Assessment and Instruction</td>
<td>3</td>
</tr>
<tr>
<td>RDG 714</td>
<td>Literacy Practicum</td>
<td>1-3</td>
</tr>
<tr>
<td>RDG 715</td>
<td>Children’s and Adolescent Literature</td>
<td>3</td>
</tr>
<tr>
<td>RDG 799</td>
<td>Master’s Thesis</td>
<td>3-6</td>
</tr>
</tbody>
</table>

Total Credits: 28-33

For licensure, candidates must also have earned a passing score (240) on the Foundations of Reading Test (FoRT) and have completed two years of successful teaching in pre K-12 schools.

**Degree requirements**

**Graduate degree requirements**

After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intercession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)
**Reading Teacher Certification Program**

This multifaceted, online Reading Teacher Certification Program is designed to meet the needs of educators who are interested in (a) ongoing professional development in reading education and (b) certification in the State of Wisconsin as a Reading Teacher (1316 license).

**Program requirements**

**Admission**

Applicants for admission to any of the graduate Reading Program tracks (including international students applying to the Master of Science without certification program) must meet all the requirements established for general admission to graduate studies at UWL.

In addition, applicants to one of the Reading Program tracks with certification (Reading Teacher with Master of Science, Reading Teacher and Specialist with Master of Science, Reading Teacher Add-On Certification) must also submit copies of teaching licenses or certificates. Applicants to these programs who do not have a teaching license or certificate must show proof of:

- Completion of student teaching or equivalent in pre K-12 schools,
- Completion of a baccalaureate degree
- Eligibility to be certified or licensed as a pre K-12 teacher

Reading Teacher (1316) or Reading Specialist (5017) certification is contingent upon:

- Satisfactory completion of appropriate Reading Program coursework, associated experiences, and artifacts (thesis, portfolio, etc.)
- Passing score on the Foundations of Reading Test (FoRT; score of 240 or higher),
- Successful completion of at least two years of teaching at the pre K-12 level.

**Curriculum**

(18 credits)

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<th>Required courses</th>
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<td>RDG 601</td>
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<tr>
<td>RDG 702</td>
<td>3</td>
</tr>
<tr>
<td>RDG 703</td>
<td>3</td>
</tr>
<tr>
<td>RDG 712</td>
<td>3</td>
</tr>
<tr>
<td>RDG 714</td>
<td>3</td>
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<tr>
<td>RDG 715</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>18</td>
</tr>
</tbody>
</table>

For licensure, candidates must also have earned a passing score (240) on the Foundations of Reading Test (FoRT) and have completed two years of successful teaching in pre K-12 schools.

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**SAA - Student Affairs Administration in Higher Education Graduate Program**

**Student Affairs Administration in Higher Education**

Department Chair: Jodie Rindt

345 Morris Hall, 608.785.6869
Email: jrindt@uwlax.edu

http://www.uwlax.edu/student-affairs-admin/

The Master of Science in Education in Student Affairs Administration in Higher Education (SAA) is a graduate program that focuses on educating and training professionals to work in student affairs positions at post-secondary institutions. The SAA Program promotes the integration of theory to practice utilizing a student development emphasis. Students develop a theoretical background and complement their classroom experience with practical work experience. The program is designed to facilitate entry or advancement into a variety of student affairs administration positions. The combination of tenure-track faculty and instructors who are full-time practicing student affairs professionals, provide a current and competency-based curriculum. Some of the areas students may choose to specialize in include: admissions, academic and career advising, financial aid, first-year experience, international education, multicultural student services, residence life, social justice centers, student success, student life, university centers or other student services areas.

The SAA Program has three program options:

- On-Campus
- Online
- Partner

The on-campus and partner program (based at UW-RF) are primarily designed to serve students who have not worked professionally in higher education. The online program is primarily designed to serve students who are currently working in higher education. Degree requirements vary slightly between the programs as a result of different student populations served. Admission to programs is competitive.

Note: Enrollment in SAA courses is restricted to graduate students in the SAA Program, unless given special permission by the SAA Department Chair.

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**2016-17 Faculty/Staff**

The following is the graduate faculty and staff as of the publication date of this catalog. This list will not be updated again until the next catalog is published in June.

**Associate Professor**

Jörg Vianden, Ed.D. (http://www.uwlax.edu/profile/jvianden)

**Assistant Professor**


**Instructional Academic Staff**

Adele Lozano, Ph.D. (http://www.uwlax.edu/profile/alozano)
Core Faculty
Nizam Arain, J.D. (http://www.uwlax.edu/profile/narain)
Chris Bakkum, Ph.D. (http://www.uwlax.edu/profile/cbakkum)
Jeannie Hanley, Ed.D. (http://www.uwlax.edu/profile/jhanley)
Nick Nicklaus, Ed.D. (http://www.uwlax.edu/profile/nnicklaus)
Jodie Rindt, Ph.D. (http://www.uwlax.edu/profile/jrindt)
Larry Ringgenberg, Ph.D. (http://www.uwlax.edu/profile/lringgenberg)
Mary Beth Vahala, Ed.D. (http://www.uwlax.edu/profile/mvahala)

Lecturer
Bob Hetzel, Ph.D. (http://www.uwlax.edu/profile/bhetzel)

Administrative Support
Sara Flack (http://www.uwlax.edu/profile/sflack)

Graduate degrees
- Student affairs administration in higher education - MSED: on-campus (p. 103)
- Student affairs administration in higher education - MSED: online (p. 103)
- Student affairs administration in higher education - MSED: UW-RF partner (p. 102)

Student Affairs Administration in Higher Education: UW-RF Partner - Master of Science in Ed

Designed for individuals who are seeking student affairs experience, the partner program involves enrolling in the SAA partner program while gaining professional experience as a paid "Graduate Student Intern" (a.k.a. Graduate Assistant) at the University of Wisconsin-River Falls. Partner program courses primarily utilize blended and online components.

Program requirements
Student Affairs Administration admission policy
Admission to graduate study does not constitute admission to the Student Affairs Administration in Higher Education Program. Priority application deadline is February 1 each year. The application process for the SAA Program consists of three parts:

1. Complete the UW System online application (https://apply.wisconsin.edu) and have official transcripts sent to UW-L admissions office from all institutions previously attended.
2. Complete the SAA application process by submitting the following:
   a. Resume
   b. Essay
   c. SAA Applicant Waiver Form
   d. Reference Form submitted by two references
3. Finalists may need to participate in an interview either on campus or by telephone or Skype with the SAA Admissions Committee.

Enrollment in SAA courses is restricted to graduate students in the SAA program, unless given special permission by the department chair.

Curriculum
40 credits

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>SAA 700</td>
<td>Professional Practice in Student Affairs</td>
<td>3</td>
</tr>
<tr>
<td>SAA 702</td>
<td>Student Development Theory</td>
<td>3</td>
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<tr>
<td>SAA 704</td>
<td>Leadership in Higher Education</td>
<td>3</td>
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<tr>
<td>SAA 705</td>
<td>History of Higher Education</td>
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<tr>
<td>SAA 706</td>
<td>Advising and Supporting</td>
<td>3</td>
</tr>
<tr>
<td>SAA 708</td>
<td>Diversity in Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>SAA 710</td>
<td>Administration in Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>SAA 720</td>
<td>Special Topics in Student Affairs Administration</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(Three semesters are required, one credit each;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>one semester may be substituted with SAA 775</td>
<td></td>
</tr>
<tr>
<td></td>
<td>for one credit)</td>
<td></td>
</tr>
<tr>
<td>SAA 730</td>
<td>Legal Aspects of Student Affairs</td>
<td>3</td>
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<tr>
<td>SAA 745</td>
<td>University Finance and Governance</td>
<td>3</td>
</tr>
<tr>
<td>SAA 765</td>
<td>Assessment in Student Affairs</td>
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<td>SAA 781</td>
<td>Student Affairs Administration Internship</td>
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<td>SAA 790</td>
<td>Capstone in Student Affairs Administration</td>
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<td>SAA 701</td>
<td>Student Affairs and Technology</td>
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</tbody>
</table>

Total Credits 40

1. Students with prior/current experience in higher education may have SAA 781 waived contingent upon submitting required documentation and receiving department chair's approval.

Degree requirements
Graduate degree requirements
After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final
semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.

7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.

8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

Student Affairs Administration in Higher Education: On-Campus - Master of Science in Education

An innovative and traditional small cohort program that includes graduate assistantships and internships at UW-La Crosse, Viterbo University, and Western Technical College.

Program requirements

Student Affairs Administration admission policy

Admission to graduate study does not constitute admission to the Student Affairs Administration in Higher Education Program. Priority application deadline is February 1 each year. The application process for the SAA Program consists of three parts:

1. Complete the UW System online application (https://apply.wisconsin.edu) and have official transcripts sent to UW-L admissions office from all institutions previously attended.
2. Complete the SAA application process by submitting the following:
   a. Resume
   b. Essay
   c. SAA Applicant Waiver Form
   d. Reference Form submitted by two references
3. Finalists may need to participate in an interview either on campus or by telephone or Skype with the SAA Admissions Committee.

Enrollment in SAA courses is restricted to graduate students in the SAA program, unless given special permission by the department chair.

Curriculum

40 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAA 700</td>
<td>Professional Practice in Student Affairs</td>
<td>3</td>
</tr>
<tr>
<td>SAA 702</td>
<td>Student Development Theory</td>
<td>3</td>
</tr>
<tr>
<td>SAA 704</td>
<td>Leadership in Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>SAA 705</td>
<td>History of Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>SAA 706</td>
<td>Advising and Supporting</td>
<td>3</td>
</tr>
<tr>
<td>SAA 708</td>
<td>Diversity in Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>SAA 710</td>
<td>Administration in Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>SAA 720</td>
<td>Special Topics in Student Affairs Administration</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(Three semesters are required, one credit each; one semester may be substituted with SAA 775 for one credit)</td>
<td></td>
</tr>
<tr>
<td>SAA 730</td>
<td>Legal Aspects of Student Affairs</td>
<td>3</td>
</tr>
<tr>
<td>SAA 745</td>
<td>University Finance and Governance</td>
<td>3</td>
</tr>
<tr>
<td>SAA 765</td>
<td>Assessment in Student Affairs</td>
<td>3</td>
</tr>
</tbody>
</table>

SAA 781 Student Affairs Administration Internship 3
SAA 790 Capstone in Student Affairs Administration 3
SAA 701 Student Affairs and Technology 1

| Total Credits | 40 |

1 Students with prior/current experience in higher education may have SAA 781 waived contingent upon submitting required documentation and receiving department chair’s approval.

Degree requirements

Graduate degree requirements

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
6. File a completed "Intent to Graduate" form online via the WINGS Student Center immediately following registration for the final semester or summer term in residence. December graduates and winter intersession should file by May 1. May and summer graduates should file by December 1.
7. Pay the graduation fee and remove all other indebtedness to the university. Payment of graduation fees does not imply readiness for graduation and does not take the place of applying for graduation.
8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)

Student Affairs Administration in Higher Education: Online - Master of Science in Education

A program for current professionals in higher education who want to advance their career. This innovative cohort-based program values course activities that involve sharing experiences from diverse perspectives of higher education settings across the country.
Program requirements

Student Affairs Administration admission policy

Admission to graduate study does not constitute admission to the Student Affairs Administration in Higher Education Program. Priority application deadline is February 1 each year. The application process for the SAA Program consists of three parts:

1. Complete the UW System online application (https://apply.wisconsin.edu) and have official transcripts sent to UW-L admissions office from all institutions previously attended.

2. Complete the SAA application process by submitting the following:
   a. Resume
   b. Essay
   c. SAA Applicant Waiver Form
   d. Reference Form submitted by two references

3. Finalists may need to participate in an interview either on campus or by telephone or Skype with the SAA Admissions Committee.

Enrollment in SAA courses is restricted to graduate students in the SAA program, unless given special permission by the department chair.

Curriculum

40 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>SAA 700</td>
<td>Professional Practice in Student Affairs</td>
<td>3</td>
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<tr>
<td>SAA 702</td>
<td>Student Development Theory</td>
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</tr>
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<td>SAA 704</td>
<td>Leadership in Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>SAA 705</td>
<td>History of Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>SAA 706</td>
<td>Advising and Supporting</td>
<td>3</td>
</tr>
<tr>
<td>SAA 708</td>
<td>Diversity in Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>SAA 710</td>
<td>Administration in Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>SAA 720</td>
<td>Special Topics in Student Affairs Administration (Three semesters are required, one credit each; one semester may be substituted with SAA 775 for one credit)</td>
<td>3</td>
</tr>
<tr>
<td>SAA 730</td>
<td>Legal Aspects of Student Affairs</td>
<td>3</td>
</tr>
<tr>
<td>SAA 745</td>
<td>University Finance and Governance</td>
<td>3</td>
</tr>
<tr>
<td>SAA 781</td>
<td>Student Affairs Administration Internship</td>
<td>3</td>
</tr>
<tr>
<td>SAA 790</td>
<td>Capstone in Student Affairs Administration</td>
<td>3</td>
</tr>
<tr>
<td>SAA 701</td>
<td>Student Affairs and Technology</td>
<td>1</td>
</tr>
<tr>
<td>SAA 765</td>
<td>Assessment in Student Affairs</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits 40

1 Students with prior/current experience in higher education may have SAA 781 waived contingent upon submitting required documentation and receiving department chair’s approval.

Degree requirements

Graduate degree requirements

After being admitted to the program of one’s choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.
2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.
3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).
4. Earn a cumulative grade point average of at least 3.00.
5. Satisfy thesis, seminar paper, terminal/graduate projects, or comprehensive examination, where applicable. A thesis approved by the committee must be submitted to the Director of Graduate Studies for approval at least two weeks before commencement. Ordinarily, a seminar paper or project report does not have to be approved by the Director of Graduate Studies. However, if the seminar paper or project report is to be archived in Murphy Library, the student must follow the same rules as they apply to the thesis requiring approval from the Director of Graduate Studies. For further research/thesis guidelines (http://www.uwlax.edu/Graduate-studies/Research/thesis-information), see the Office of Graduate Studies.
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8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)
SAA - Student Affairs Administration and Leadership Graduate Program

Student Affairs Administration in Higher Education
Department Chair: Jodie Rindt
345 Morris Hall; 608.785.8699
Email: jrindt@uwlax.edu

http://www.uwlax.edu/student-affairs-admin/

The Ed.D. in Student Affairs Administration and Leadership is designed to prepare currently employed student affairs professionals for senior-level positions in student affairs units and divisions. The program is designed for individuals who are working in student affairs at the post-secondary level while pursuing this degree. Courses are delivered online in a cohort model on a year round basis. The program is designed to be completed in three years.

Ideal candidates for this program are student affairs professionals who have excellent social and professional support networks, are highly motivated, familiar with online learning, and can commit to an academically challenging program. Familiarity with course management systems (like D2L or Blackboard) is helpful. A strong academic record at the master’s degree level is expected.

2016-17 Faculty/Staff

The following is the graduate faculty and staff as of the publication date of this catalog. This list will not be updated again until the next catalog is published in June.

Associate Professor
Jörg Vianden, Ed.D. (http://www.uwlax.edu/profile/jvianden)

Assistant Professor
Tori Svoboda, Ed.D. (http://www.uwlax.edu/profile/tsvoboda)

Instructional Academic Staff
Adele Lozano, Ph.D. (http://www.uwlax.edu/profile/alozano)

Core Faculty
Nizam Arain, J.D. (http://www.uwlax.edu/profile/narain)
Chris Bakkum, Ph.D. (http://www.uwlax.edu/profile/cbakkum)
Jeannie Hanley, Ed.D. (http://www.uwlax.edu/profile/jhanley)
Nick Nicklaus, Ed.D. (http://www.uwlax.edu/profile/nnicklaus)
Jodie Rindt, Ph.D. (http://www.uwlax.edu/profile/jrindt)
Larry Ringgenberg, Ph.D. (http://www.u wlax.edu/profile/lringgenberg)
Mary Beth Vahala, Ed.D. (http://www.uwlax.edu/profile/mvahala)

Lecturer
Bob Hetzel, Ph.D. (http://www.uwlax.edu/profile/bhetzel)

Administrative Support
Sara Flack (http://www.uwlax.edu/profile/sflack)

Graduate degree

• Doctor of Education - Ed.D. (p. 105)

Student Affairs Administration and Leadership - Doctor of Education

Mission
To prepare student affairs professionals for advanced leadership positions in institutions of higher education

Goals
1. Knowledge: To develop competent and expert SA professionals;
2. Management and Leadership: To develop innovative SA managers and leaders;
3. Assessment, Evaluation and Research: To develop scholar practitioners who advance research-informed decision making;
4. Equity, Diversity and Inclusion: To develop ambassadors of diversity, social justice, and globalization;
5. Interpersonal Relationships: To develop ethical and people-focused leaders;

Learning Outcomes
1. Through knowledge acquired in this program, graduates will be able to:
   a. Demonstrate mastery of student affairs and higher education content;
   b. Synthesize information from a range of sources to analyze issues and apply solutions to professional practice.
2. Through management and leadership skills acquired in this program, graduates will be able to:
   a. Develop a vision for a division, considering complexities of institutional culture and resources;
   b. Effectively justify decisions, judgments and recommendations, weighing competing evidence and making connections to the values and beliefs of the institution.
3. Through assessment, evaluation and research skills acquired in this program, graduates will be able to:
   a. Use assessment, evaluation and research methods to inform practice;
   b. Defend data informed decision making in professional practice.
4. Through an understanding of equity, diversity and inclusion skills acquired in this program, graduates will be able to:
   a. Challenge the manifestations of privilege and assess implications for practice;
   b. Examine the diversity of students and colleagues within social and cultural context in which they live.
5. Through the development of exceptional interpersonal relationship skills acquired in this program, graduates will be able to:
   a. Demonstrate respectful collaboration while seeking alternate points of view;
b. Defend practices that promote the worth, dignity, potential, and uniqueness of each person.

**Program requirements**

**Admission policy**

Admission to the Ed.D. in Student Affairs Administration and Leadership is competitive and requires:

1. A master's degree in student affairs, higher education, or related field;
2. A minimum of three years professional experience in a post-secondary educational institution;
3. Current employment in a student affairs related professional position in a post-secondary educational institution with the expectation of continuing that employment while in the Ed.D. program;
4. An application essay in response to a prompt provided by the SAA department;
5. A professional resume or vitae;
6. The names and contact information of three professional references;
7. Official transcripts of all post-secondary work.

Candidates may be asked to submit additional application materials and/or participate in an interview process.

**Curriculum**

(54 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAA 800</td>
<td>21st Century Learners</td>
<td>3</td>
</tr>
<tr>
<td>SAA 805</td>
<td>Organization and Governance</td>
<td>3</td>
</tr>
<tr>
<td>SAA 808</td>
<td>Enrollment Management</td>
<td>3</td>
</tr>
<tr>
<td>SAA 810</td>
<td>Philosophical and Theoretical Foundations of Leadership in Education</td>
<td>3</td>
</tr>
<tr>
<td>SAA 820</td>
<td>Critical Analysis of Systemic Inequities: Challenges of Social Justice</td>
<td>3</td>
</tr>
<tr>
<td>SAA 825</td>
<td>Finance and Budgeting</td>
<td>3</td>
</tr>
<tr>
<td>SAA 830</td>
<td>Qualitative Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>SAA 835</td>
<td>Assessment and Program Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>SAA 840</td>
<td>Supervision and Human Resource Management</td>
<td>3</td>
</tr>
<tr>
<td>SAA 845</td>
<td>Quantitative Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>SAA 855</td>
<td>Specialized Study (take two semesters for three credits each)</td>
<td>6</td>
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<tr>
<td>SAA 865</td>
<td>Strategic Planning and Managing Change</td>
<td>3</td>
</tr>
<tr>
<td>SAA 870</td>
<td>Policy and Regulatory Compliance</td>
<td>3</td>
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<tr>
<td>SAA 875</td>
<td>Organizational Communication</td>
<td>3</td>
</tr>
<tr>
<td>SAA 950</td>
<td>Dissertation Seminar</td>
<td>3</td>
</tr>
<tr>
<td>SAA 990</td>
<td>Dissertation I</td>
<td>3</td>
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<tr>
<td>SAA 995</td>
<td>Dissertation II</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits 54

**Degree requirements**

**Graduate degree requirements**

After being admitted to the program of one's choice, candidates for a graduate degree must:

1. Complete any preliminary course work and deficiencies.

2. Complete all courses and other program requirements, including residence requirements prescribed for the degree desired in the respective school or college within a seven-year period from the date of initial enrollment.

3. Earn at least one-half of the minimum number of credits required in the program in graduate-only level courses (non-slash courses).

4. Earn a cumulative grade point average of at least 3.00.

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8. Complete all requirements within 30 days after the official ending date of a term in order for a degree to be awarded for that term. (See #5 above for separate deadline for written capstone experience.)
Accountancy (ACC) - Graduate Courses

Courses

ACC 400/500 Cr.1-3
Accountancy Forum
Emphasis will be on examination and study of current accountancy issues. Topics will vary from semester to semester. Repeatable for credit - maximum six. Consent of instructor. Offered Occasionally.

ACC 418/518 Cr.3
Business Law for Accountants
The study of law as it relates to the professional accountant’s need for an understanding of the legal environment. Among topics included are an accountant’s legal responsibility, federal security regulation, antitrust laws, employer-employee relationship, bankruptcy, forms of business organization, estates and trusts, commercial paper, contracts, sales, real estate and ethics. Prerequisite: BUS 205. Offered Fall, Spring.

ACC 421/521 Cr.3
Advanced Accounting
Principles and theories of financial accounting and reporting for consolidated groups of entities, state and local governmental entities, and partnership entities. A majority of this course relates to consolidated groups of entities including translating foreign exchange transactions and consolidation of foreign operations. Prerequisite: ACC 322. Offered Fall, Spring.

ACC 430/530 Cr.3
Taxation II
A study of advanced tax law affecting different forms of business entities. This course will include the preparation of various federal business income tax returns. Prerequisite: ACC 330. Offered Fall, Spring.

ACC 438/538 Cr.3
Principles of Auditing
Introduces the student to auditing, attestation, and assurance services. Topics include: client acceptance, audit planning, client internal control systems, audit risk, materiality, audit evidence, audit sampling, audit documentation, engagement quality control, professional ethics, legal liability, and the audit, attestation or assurance report issues by the auditor. The sources of authoritative standards and interpretations addressed in the course include: Audit Standards issued by the Public Company Accounting Oversight Board applied to clients that are required to report to the United States Securities and Exchange Commission, Statements on Auditing Standards for all other clients, and the Code of Professional Conduct issued by the American Institute of Certified Public Accountants. Prerequisite: MTH 145; ACC 322, ACC 327. Offered Fall, Spring.

ACC 703 Cr.2
Accounting for Business Decisions
An examination of basic financial statements and accounting systems. Emphasis on statement analysis, cash flows, inventory methods, long-term assets and tax consideration. Capital markets, financing and other liabilities will be covered. This course is offered as an Internet course. MBA foundation course. Offered Occasionally.

ACC 704 Cr.1
Accounting for Management Decisions
An overview of accounting information needed for informed management decisions. Topics include cost concepts and behavior, product costing, allocation and budgeting. This course is offered as an Internet course. MBA foundation course. Prerequisite: ACC 703. Offered Occasionally.

ACC 706 Cr.3
Survey of Financial Accounting
An analysis of accounting concepts as they relate to internal and external users of information contained in the financial reports such as: cash flow, revenue recognition, inter-corporate investments, inventory, liabilities, and auditor's opinion. Offered Occasionally.

ACC 797 Cr.1-3
Independent Study
Individual reading or research under the guidance of a staff member. Registration with the consent of the student's regular adviser, the instructor, and the department chairperson. Approval form available in the Office of the Dean of the College of Business Administration. Form must be completed prior to registration. Repeatable for credit - maximum 3. Prerequisite: admission to the MBA Program with a minimum 3.50 cum GPA; completed a minimum of 21 credits in the MBA Program. Maximum of three credits of independent study in any combination of ACC 797, ECO 797, FIN 797, MGT 797 and MKT 797. Consent of instructor. Offered Occasionally.

Archaeology (ARC) - Graduate Courses

Courses

ARC 409/509 Cr.1-3
Readings and Research in Archaeology
Directed readings or research under the supervision of an instructor. Repeatable for credit - maximum 12. Prerequisite: ARC 200 or ARC 490/590 or ARC 493/593. Consent of instructor. Offered Annually.

ARC 490/590 Cr.3
Archaeology for Teachers
This course explores methods and resources for applying archaeology in the regular pre-collegiate classroom. A brief overview of the science of archaeology, and the pre-European cultures of Wisconsin and Minnesota is provided. Offered Occasionally.

ARC 491/591 Cr.3
Archaeology Field School for Teachers
Participants will experience the basic skills used in the excavation of archaeological sites, including surveying techniques, methods of excavation, compilation of field data and laboratory analysis. Practical application of the skills will be related to the classroom of the pre-collegiate instructor. Repeatable for credit - maximum 12. Prerequisite: ARC 490/590 or ARC 493/593. Offered Occasionally.

ARC 492/592 Cr.3
Archaeology Analysis Procedures for Teachers
Taking a hands-on approach to analyzing and interpreting archaeological remains, the class will integrate lectures with demonstrations, experiments, and supervised laboratory projects. Study will focus on the potential for interpreting human lifeways and adaptations to the laboratory environment from stone tools, ceramics, floral, and faunal remains. Practical application of the interpretation process will be related to the classroom of the pre-collegiate instructor. Introduction will provide an overview of field procedures. Prerequisite: ARC 490/590 or ARC 493/593. Offered Occasionally.
Courses

**Wisconsin Archaeology for Teachers**
This course is designed to provide teachers with substantial content on the science of archaeology and the pre-European history of Wisconsin. Through an inquiry-based approach, teachers learn the process of archaeological interpretation of cultural patterns from material remains by undertaking the reconstruction of such patterns from a provided sample of material remains. This process is applicable to the K-12 classroom. Offered Occasionally.

ART 493/593 Cr.3

**Applied Archaeology for Teachers**
This course is designed to give teachers a comprehensive and hands-on personal experience in archaeological data acquisition, interpretation and experimental archaeology. Participants will apply class content to the K-12 classroom. Repeatable for credit - maximum 12. Offered Occasionally.

ARC 494/594 Cr.1-3

**Seminar in Archaeology**
Intensive study of a specific area or problem of archaeology. Repeatable for credit - maximum 12 between ARC 498/598 and ANT 499. Departmental option for pass/fail grading. Prerequisite: ARC 200 or ARC 490/590 or ARC 493/593. Offered Occasionally.

ARC 498/598 Cr.1-3

**Perspective in Art II**
Art studio and/or historical investigation within traditional and contemporary areas of art. Repeatable for credit - maximum three. Consent of instructor. Offered Occasionally.

ART 403/503 Cr.3

**Methods in Art: Early Adolescence-Adolescence**
This course is designed for future art teachers in art and design education from early adolescence to adolescence. The students will consider current practices and theory related to teaching visual art and design in middle school and high school learning environments. They will observe in local classrooms and will analyze effective instructions as they plan delivery systems for their future classrooms. Using the Wisconsin Model Academic Standards, they will plan curriculum including unit and lesson plans as well as effective assessment of student learning. Offered Spring.

ART 413/513 Cr.1-3

**Independent Study**
Concentrated study in any area: art history, art metal, ceramics, design, drawing, painting, printmaking, sculpture. Open to advanced students who have excellent records in selected areas. Repeatable for credit - maximum six for majors, maximum of four for non-majors or minors. Consent of instructor. Offered Occasionally.

ART 615 Cr.1-3

**Art Seminar**
An in-depth investigation of a specific area of studio art, art history, or art education taught by an artist or instructor who has recognized mastery of knowledge, skill, or talent. Prerequisite: an undergraduate degree in visual arts or consent of the instructor. Offered Occasionally.

**Topics in Physics and Astronomy**
Various subjects of interest to specific groups will be offered on occasion. Specific sub-topics will be assigned each time the course is offered. Such titles might include nuclear physics, low temperature physics, and the interstellar medium. Repeatable for credit under different subtitles - maximum 12. Prerequisite: PHY 104 or PHY 204. (Cross-listed with AST/PHY; may only earn credit in one department.) Offered Occasionally.

AST/PHY 453/553 Cr.1-3

**Plant Taxonomy**
Identification and collection of vascular plants of aquatic and marsh habitats with emphasis on adaptive morphology and ecology of local species. Field trips required. Lect. 1, Lab. 2. Prerequisite: BIO 203 or BIO 304. Offered Fall - Even Numbered Years.

BIO 405/505 Cr.2

**Parasitology**
A survey of the major groups of animal parasites with regard to their taxonomy, morphology, life histories, host-parasite relationships, and economic importance. Lect. 2, Lab 4. Prerequisite: BIO 203 or BIO 303. Offered Fall.

BIO 408/508 Cr.4

**Developmental Biology**
An exploration of the cellular and molecular mechanisms that underlie embryonic development in several model organisms. Topics include fertilization, regulation of gene expression, cell fate determination, stem cells, early pattern formation, morphogenesis of tissues/organs, and limb formation. The course primarily focuses on animal models with an emphasis on evolutionarily conserved processes, structures, and molecular pathways. Technological advances and relevance to human development and disease are highlighted throughout. Lect. 2, Lab. 4. Prerequisite: BIO 203 or BIO 210 or BIO 303; BIO 306 or MIC 416; BIO 315. Offered Spring.

BIO 408/508 Cr.4

**Biology (BIO) - Graduate Courses**

**Courses**

**Art (ART) - Graduate Courses**

**Courses**

**Perspective in Art II**
Art studio and/or historical investigation within traditional and contemporary areas of art. Repeatable for credit - maximum three. Consent of instructor. Offered Occasionally.

ART 403/503 Cr.3

**Methods in Art: Early Adolescence-Adolescence**
This course is designed for future art teachers in art and design education from early adolescence to adolescence. The students will consider current practices and theory related to teaching visual art and design in middle school and high school learning environments. They will observe in local classrooms and will analyze effective instructions as they plan delivery systems for their future classrooms. Using the Wisconsin Model Academic Standards, they will plan curriculum including unit and lesson plans as well as effective assessment of student learning. Offered Spring.

ART 413/513 Cr.1-3

**Independent Study**
Concentrated study in any area: art history, art metal, ceramics, design, drawing, painting, printmaking, sculpture. Open to advanced students who have excellent records in selected areas. Repeatable for credit - maximum six for majors, maximum of four for non-majors or minors. Consent of instructor. Offered Occasionally.

ART 615 Cr.1-3

**Art Seminar**
An in-depth investigation of a specific area of studio art, art history, or art education taught by an artist or instructor who has recognized mastery of knowledge, skill, or talent. Prerequisite: an undergraduate degree in visual arts or consent of the instructor. Offered Occasionally.

**Courses**

**Physics and Astronomy Internship**
Full- or part-time work experience in a physics or astronomy related position with a public or private agency. Not more than five credits are applicable to a major or three credits to a minor in physics. A written application, departmental acceptance, and appointment of adviser must be completed before registration. Repeatable for credit - maximum 15. Prerequisite: minimum cumulative GPA of 2.25 (2.50 in physics). PHY 104 or PHY 204, plus six credits in physics or astronomy courses above 204 level. (Cross-listed with AST/PHY; may only earn credit in one department.) Offered Occasionally.

AST/PHY 450/550 Cr.3-15

**Art (ART) - Graduate Courses**
BIO 421/521 Cr.3

Comparative Vertebrate Endocrinology
A comprehensive study of the production, regulation, structure, molecular to whole-body actions, metabolism, and excretion of biochemical signaling molecules across vertebrates with a focus on amphibians, fish, birds, and mammals. Hormone and neurotransmitter pathways will be examined with relationship to evolutionary and environmental influences using lecture, review of primary literature, and case studies. Prerequisite: BIO 313 or BIO 458/558. Offered Spring.

BIO 422/522 Cr.3

Ichthyology
A study of the taxonomy, anatomy, physiology, and ecology of fish, with emphasis on the fresh water fishes. Lect. 2, Lab. 2. Prerequisite: BIO 203 or BIO 210 or BIO 303. Offered Fall - Odd Numbered Years.

BIO 424/524 Cr.3

Human Endocrinology
A comprehensive study of the production, regulation, structure, molecular to whole body actions, metabolism, and excretion of biochemical signaling molecules in humans. The classical and more recently recognized neurotransmitter and hormone pathways and clinical and pharmacology considerations of each will be explored with lectures, primary literature and case studies. Prerequisite: BIO 313 or BIO 458/558. Offered Fall.

BIO 428/528 Cr.3

Advanced Nutrition for the Health Professions
A comprehensive study of nutrition-related diseases and nutrition assessment, evaluation, and management in clinical settings that people working in healthcare may encounter. Prerequisite: BIO 313 or NUT 200. Offered Spring.

BIO 429/529 Cr.3

Evolution
Consideration of the principles and the record of organic evolution of plants and animals. Lect. 3. Prerequisite: BIO 306. Offered Spring.

BIO 432/532 Cr.2

Biology of Cancer
A survey of the current knowledge of cancer biology. The course will include lectures, readings and discussions on a wide range of cancer topics, including: characteristics of cancer cells, carcinogenesis, cancer genes, tumor classification, invasion, metastasis, impact of cancer on body functions, epidemiology, inheritance, immunology, diagnosis, treatment, and prevention. Prerequisite: BIO 303 or BIO 313; BIO 306 or MIC 416. Offered Fall.

BIO 435/535 Cr.3

Molecular Biology
A study of molecular biology with an emphasis on eukaryotic systems. The course will focus on the molecular aspects controlling biological processes. The impact of recombinant DNA technology on biotechnology and medicine will also be examined. Lect. 3. Prerequisite: BIO 306 and BIO 315, or MIC 416/516; three semesters of college chemistry including organic chemistry. Biochemistry strongly recommended. BIO 436/536 is an optional laboratory which can be taken concurrently. Offered Fall.

BIO 436/536 Cr.1

Molecular Biology Laboratory
A study of molecular biology with an emphasis on eukaryotic systems. Laboratory emphasis is on recombinant DNA technology, current techniques used to express recombinant proteins in eukaryotic cells, computer based DNA analysis, macromolecular modeling using computers, and quantitative assay techniques. Lab. 3. Prerequisite: taken concurrently with BIO 435/535. This lab is optional for those enrolled in BIO 435/535. Offered Fall.
BIO 437/537 Cr.3

Plant Growth and Development
Discussion of experiments and analysis of research data obtained from the living plant. Prerequisite: BIO 203 or BIO 304 or equivalent. Offered Occasionally.
BIO 439/539 Cr.3

Plant Anatomy
A detailed examination of plant structure and development as revealed with the light and electron microscopes. Primarily seed plants will be examined. Structure and development will be studied as a means by which plants cope with their ecology, evolution and function. Lect. 2, Lab. 2. Prerequisite: BIO 203 or BIO 304 or an equivalent general botany course. Offered Occasionally.

BIO/MIC 440/540 Cr.2

Bioinformatics
In this course, students will use computers to study and compare the sequence of nucleotides in DNA or RNA, or the amino acids in a protein. Computers also are used to examine the three dimensional structure of protein. Being able to manipulate and study this information is the basis for the current revolution in biotechnology. Topics include evolution, taxonomy, genomics and understanding disease. This course provides students an opportunity to explore the relationships between biology, microbiology, chemistry, and computer science. Lect. 2, Lab. 1. Prerequisite: BIO 306 or MIC 416/516. (Cross-listed with BIO/MIC; may only earn credit in one department.) Offered Spring, Winter.

BIO 441/541 Cr.3

Environmental Toxicology
The study of the lethal and sublethal effects of chemical contaminants on ecosystems and humans. Topics covered include environmental legislation, chemical distribution and fate in the environment, methods of toxicity testing, assessment of exposure and risk, effects of chemical contaminants on humans, and fish and wildlife populations, communities and ecosystems, and toxicity of specific chemical groups. Prerequisite: BIO 307 or BIO 341; CHM 104. Offered Spring - Odd Numbered Years.

BIO/MIC 442/542 Cr.3

Plant Microbe Interactions
This course will explore in-depth various ways that plants interact with microbes in the environment, at the macroscopic, cellular, and molecular levels. Case studies will include both parasitic and mutualistic (symbiotic) interactions. Microbes include fungi, bacteria, nematodes, and viruses. Includes plant pathology and studies of the beneficial relationships between plants and microbes. Inquiry-based labs are integrated into the lecture and discussion sessions. Lect. 2, Lab. 2. Prerequisite: BIO 203 or BIO 304; MIC 230; BIO 306 or MIC 416. (Cross-listed with BIO/MIC; may only earn credit in one department.) Offered Spring - Even Numbered Years.

BIO 443/543 Cr.3

Molecular Mechanism of Disease and Drug Action
A survey of the leading non-infectious and non-cancerous diseases in the industrialized world. This course will explore the molecular mechanisms of disease, clinical symptomology, and pharmacological treatment. Students will be expected to conduct thorough research on a given disease and present their results in a poster session. Prerequisite: BIO 306, BIO 313; CHM 300 or CHM 304. Offered Spring.

BIO 546 Cr.3

Animal Behavior
We will explore factors that help to explain how and why animals behave as they do. Example topics include social behavior, learning, symbiotic relationships, sensory systems, communication, mating systems, defense, and parental care. Emphasis will be placed on non-human animals. Discussions, presentations, illustrations, and other activities offer opportunities for students to apply behavioral research knowledge and skills. Offered Annually.

BIO 447/547 Cr.3

Standard Methods/Quality Assurance Water Analyses
This course will instruct students on the use of standard methods for analyses of selected biological, chemical, and physical constituents commonly included in water quality analyses. Quality assurance procedures, including Good Laboratory Practice Standards (GLPS) will be integrated into all activities. Materials covered include: principles of methods used; evaluation of precision, bias, and contamination; proper reporting and interpretation of results; and environmental sources and significance of constituents analyzed. Lect. 1, Lab. 4. Prerequisite: BIO 203 or BIO 210 or BIO 303 or BIO 304, and three semesters of college chemistry. BIO 341 recommended. Offered Spring - Odd Numbered Years.

BIO 548 Cr.4

Aquatic Toxicology
A study of the lethal and sublethal effects of chemical contaminants in aquatic systems, specific chemical effects, chemical distribution and fate, and environmental legislation. Procedures for toxicity evaluation, experimental design and statistical analysis will be emphasized in the laboratory. Lect. 3, Lab. 2. Prerequisite: four semesters of college biology; three semesters of college chemistry. BIO 341 recommended. Offered Occasionally.

BIO 449/549 Cr.3

Advanced Microscopy and Biological Imaging
Principles and techniques used in modern microscopy and biological image analysis. Emphasis will be on student projects to become proficient at confocal, fluorescence, and scanning electron microscopy. Students will also learn specimen preparation, digital imaging, and image processing and analysis for biological applications. Lect. 2, Lab. 2. Prerequisite: BIO 315 or MIC 230. Offered Fall - Even Numbered Years.

BIO 456/556 Cr.4

Plant Ecology
Conservation biology, ecological restoration, and predicting the effects of climate change all require an understanding of plant ecology. This course is focused on the interactions among plants, other organisms, and the environment. We will work across the individual, population, and community levels, and emphasize an exploratory approach to plant ecology. Class activities will include lectures, the discussion of ecological journal articles, and carrying out student-designed experiments. Offered Fall - Even Numbered Years.

BIO 458/558 Cr.4

Comparative Animal Physiology
This course has both a lecture and a laboratory component. It aims to provide a thorough understanding of animal physiology from a comparative perspective. Emphasis will be placed on the basic physiological principles by which animals perform their life sustaining functions. Lectures will focus on vertebral animals, but will span both invertebrate and vertebrate models to illustrate how largely divergent groups have evolved different (or similar) mechanisms to cope with environmental challenges. The laboratory component will provide an active learning environment and hands-on experience in physiological experimentation. Lect. 3, Lab. 2. Offered Fall.
BIO 460/560 Cr.1-4
Symposium in Biology
Studies in biology of interest to specific groups. Varying topics will be offered at intervals with a specific title assigned to each. May be staffed by resident faculty or visiting lecturers. Other departments may be invited to participate. Repeatable for credit - maximum 16. Variable offerings - check registration schedules. Prerequisite: four semesters of biology. Offered Occasionally.

BIO 563 Cr.3
Aquatic Animal Health
The study of pathogens of aquatic animals, including fish, shellfish, crustaceans, amphibians, waterfowl and mammals. Sections on nutrition and toxicology are included. Emphasis is on laboratory techniques for isolation and identification of pathogenic bacteria, viruses and parasites. Field trips required. Lect. 2, Lab. 3. Prerequisite: BIO 105, BIO 203 or BIO 210 or BIO 303; and CHM 103. MIC 230 strongly recommended. Offered Occasionally.

BIO 464/564 Cr.3
Stream and Watershed Ecology
Introduces key concepts and theory pertinent to understanding and managing fluvial ecosystems (rivers and streams) and their watersheds. The course will emphasize rivers as large-scale physical and biological systems. Course work includes a comparative case study of distinctive types of temperate, tropical, and polar rivers. Prerequisite: BIO 341 or BIO 307. Offered Spring.

BIO 465/565 Cr.3
Neurophysiology
An examination of the nervous system beginning at the cellular level and working up to neuronal systems. Topics covered include the ionic basis of membrane potentials, synaptic communication, organization of functional circuits of neurons, and systems within the brain and/or spinal cord which control learning and memory, and vision and motor function. Exploration of these fundamental neurophysiology topics form the basis for understanding a variety of student-selected topics which will be covered later in the semester. Late-semester topics often include higher-order aspects of brain function or challenges to the nervous system - such as the repair of brain or spinal cord injury, degenerative disease states, dyslexia, or gender differences. BIO 467/567 is an optional laboratory course which can be taken concurrently. Prerequisite: BIO 312. Offered Spring.

BIO 466/566 Cr.3
Human Molecular Genetics
A study of the basic principles of heredity in humans. Focus will be on modern molecular techniques used in isolating human disease genes and modes of inheritance of human traits and disorders. Ethical issues in human genetics will also be discussed. BIO 468/568 is an optional laboratory course which can be taken concurrently. Prerequisite: BIO 306. Offered Fall.

BIO 467/567 Cr.2
Neurobiology Laboratory Techniques
An introduction to common laboratory techniques in neurobiology, including electrophysiology with invertebrate preparations, mammalian neuronal cell culture, and computational modeling. Students will receive training in techniques while performing classical experiments, then design their own novel experiments and carry them out. Lab. 4. Prerequisite: BIO 312; BIO 465/565 or concurrent enrollment. Offered Spring - Odd Numbered Years.

BIO 468/568 Cr.1
Human Molecular Genetics Lab
A study of the techniques used in doing research in human molecular genetics with a focus on commonly used model organisms in the study of human genetic disorders. Laboratory emphasis is on phenotype analysis, library screening, DNA microarray analysis, gene mapping, and bioinformatics. This lab is optional for those enrolled in BIO 466/566. Lab. 3. Prerequisite: BIO 306. BIO 466/566 must be taken concurrently. Offered Fall.

BIO 473/573 Cr.3
Marine Biology
Marine biology is an interdisciplinary field that includes elements of geology, physics, chemistry and biology. Students will gain an introduction to how biological organisms deal with varying physical, geological and chemical conditions found in marine ecosystems. Emphasis will be placed on current conservation concerns and marine invertebrate diversity. Prerequisite: BIO 203 and CHM 103. Offered Spring - Odd Numbered Years.

BIO 476/576 Cr.3
Ecosystem Ecology
Ecosystems include the living and non-living components of an environmental system and have emergent properties that can only be understood by examining the system as a whole. This course will examine advanced ecological topics centered around the structure and function of aquatic and terrestrial ecosystems. Topics covered will include the development of the ecosystem concept, ecosystem succession, productivity/decomposition, energy transfer in food webs, and nutrient cycling. The course will consist of classroom lectures, problem sets, and reading/discussion of relevant literature. Prerequisite: BIO 307 and one semester of chemistry. Offered Spring - Even Numbered Years.

BIO 588 Cr.3
Mammalogy
A study of the diversity and biology of mammals. The origins and evolutionary history of mammals grounds a survey of modern mammalian groups, including their phylogenetic relationships, ecology, adaptations, and complex behaviors. Wisconsin species will be highlighted. Graduate students will assist with instruction on the mammal groups of their choice. Prerequisite: graduate standing in biology. Offered Fall.

BIO 490/590 Cr.1-3
Current Topics in Biology Education
Biological researchers produce new discoveries almost daily. The purpose of this course is to train K-12 pre-service and in-service teachers in the current technologies and theories used in biology and to demonstrate the current approaches to teaching these materials. Repeatable for credit under different topics. Departmental option for pass/fail grading. Pass/Fail grading. Offered Fall.

BIO 701 Cr.4
Communication in the Biological Sciences
This course covers in detail the preparation and submission of scientific manuscripts for publication and the presentation of papers at scientific conferences. Topics covered include preparation of manuscript sections, figures, and tables; writing with clarity, precision, and word economy; dealing with journal editors and reviewers; reviewing and editing of manuscripts; preparation of proposals for funding; presentation of oral (platform) and poster papers at scientific conferences; preparation of visual aids; serving on expert panels; serving as an expert witness; and communicating with the public, the press, lawyers, and politicians. Offered Spring - Even Numbered Years.
BIO 713 Cr.2

Physiology of Drug Action
A study of the general principles of pharmaco-dynamics and pharmacokinetics of drugs in human systems with emphasis on the physiological responses at the cellular and organ levels. Prerequisite: BIO 718 or concurrent enrollment. Offered Occasionally.

BIO/MIC 714 Cr.3

Advanced Genetics
The application of molecular-genetic analysis to problems in modern biology. The course will cover the fundamentals of genetic analysis in both procaryotic and eucaryotic systems. Assigned readings from current literature will be discussed and evaluated. A variety of topic areas will be covered including: ecology, biotechnology, bioremediation, food science, medicine and basic research. Prerequisite: a previous course in genetics, microbial genetics, or molecular biology. (Cross-listed with BIO/MIC; may only earn credit in one department.) Offered Spring - Odd Numbered Years.

BIO 715 Cr.3

Pathophysiology I
A study of diseases of the human central nervous system, pulmonary, cardiovascular, and renal systems with an emphasis on pathophysiology, treatment, and interaction with other organ systems. Prerequisite: BIO 718; BIO 719; admission to the Biology Certified Registered Nurse Anesthetist (CRNA) program. Offered Fall.

BIO 716 Cr.3

Current Topics in Physiology
Consideration of selected topics in physiology such as advanced cellular physiology, membrane and endocrinological physiology, and systemic physiology. Assigned readings will be largely from current literature. Offered Occasionally.

BIO 717 Cr.3

Pathophysiology II
A study of diseases of the human hepatic, gastrointestinal, immune, neuromuscular, and endocrine systems with an emphasis on pathophysiology, treatment, and interaction with other organ systems. Prerequisite: BIO 718; BIO 719; admission to the M.S. Biology Certified Registered Nurse Anesthetist (CRNA) Program. Offered Spring.

BIO 718 Cr.4

Advanced Human Physiology I
An in-depth study of the physiology (including associated anatomic structures) of human organ systems. Covers the cell, and the nervous, muscular and respiratory systems. Prerequisite: B.S. in biology or allied health related field. Offered Fall.

BIO 719 Cr.4

Advanced Human Physiology II
An in-depth study of the physiology (including associated anatomic structures) of human organ systems. Covers the circulation, endocrine, digestive and excretory systems, and temperature regulation. Prerequisite: BIO 718. Offered Spring.

BIO 720 Cr.2

Research in Anesthesia
The student will conduct a critical review and analysis of the primary literature and/or patient records (after IRB approval) in the area of clinical anesthesia or applied physiology. The results and analysis will be summarized and presented in a poster format. Students will be required to present their poster at a professional meeting. Prerequisite: BIO 718; BIO 719; admission to the M.S. Biology Certified Registered Nurse Anesthetist (CRNA) Program. Offered Summer.

BIO/MIC 721 Cr.1-2

Directed Studies
Directed readings or presentation of material not available in formal departmental courses. Repeatable for credit - maximum four between BIO and MIC. (Cross-listed with BIO/MIC.) Offered Fall, Spring.

BIO 723 Cr.3

21st Century Mycology
An in-depth examination of contemporary research on fungi, including systematics and evolution, genetics, molecular ecology, biotechnology, bioremediation, physiology, plant or animal pathology, and/or developmental biology, through critical analysis and discussion of primary literature sources. Readings will exemplify major questions, experimental approaches, and methods, and will be analyzed to identify important contemporary research themes, paradigm shifts, and unanswered questions. Prerequisite: BIO 412/512; BIO 306. Offered Occasionally.

BIO 725 Cr.1-3

Forum in Biology
An in-depth examination of selected topics in biology through critical analysis of the primary literature. Participants will be required to read and discuss the experimental design, methods, results and major conclusions of scientific research. Repeatable for credit - maximum six. Variable offerings - check registration schedules. Offered Occasionally.

BIO 726 Cr.1-3

Advanced Laboratory Techniques in Biology
Development of accessory research skills in specialized areas of biology. Repeatable for credit - maximum six. Variable offerings - check registration schedules. Offered Occasionally.

BIO 732 Cr.2

Effective Teaching Strategies for Grad Teaching Assts in the Science Lab
This course aims to improve proficiency of graduate teaching assistants in the science laboratory. Topics covered may include, but are not limited to, students learning styles, lecture and question techniques, design of assessment tools, portfolio development, and grading techniques. Offered Fall.

BIO/MIC 751 Cr.1

Graduate Seminar
Directed readings or presentation of material not available in formal departmental courses. Repeatable for credit - maximum four between BIO and MIC. Offered Fall, Spring.

BIO 761 Cr.2

Research and Seminar in Biology
Principles of research in biology. As part of the requirements for this course and for the degree, each student must complete an acceptable seminar paper unless pursuing Plan A and writing a master’s thesis. Offered Fall, Spring, Summer.

BIO 779 Cr.1-2

Biological Laboratory Assistant
Allows graduate students to gain experience in assisting with preparation and teaching 300 and 400 level laboratory-based courses in conjunction with the regular instructor. Students will be expected to assist in preparation of course materials, demonstrate proper techniques, and evaluate students’ performance. Repeatable for credit - maximum three. Lab. 2-6. Prerequisite: graduate standing. Not applicable to students assisting in 100 or 200 level courses. Consent of instructor. Offered Fall, Spring.
Business Administration (BUS) - Graduate Courses

Courses

BUS 700 Cr.1-3
Business Forum
Emphasis on the exploration of new developments in business theory and practice. Topics will vary from semester to semester. Repeatable for credit - maximum 12. Prerequisite: admission to the MBA program. Offered Fall, Winter, Spring, Summer.

BUS 710 Cr.2
Statistical Analysis Foundations
This course is designed for students entering the MBA program who have not had sufficient exposure to the subject before. Students will learn the basic concepts, principles and techniques of business statistics. They will be able to implement the techniques on spreadsheets using specially designed templates, and will develop a working knowledge of the subject in order to solve statistical problems in business. The techniques will cover such topics as descriptive statistics, probability distributions, estimation, hypothesis testing and simple regression. This course is an internet MBA foundation course. Prerequisite: college algebra, basic competency in using MS Excel. Offered Fall.

BUS 730 Cr.3
Decision Framing and Decision Making in Complex Environments
This course challenges students to integrate all of the discipline-specific skills developed in the MBA foundation courses within a dynamic decision-making context. The focus of the course will be on the process of problem framing/identification, analysis, and decision-making in complex and uncertain environments. Students develop critical judgments about the efficient and effective application of core knowledge which requires applying the tools of analysis appropriately and extracting useful insights and drawing managerially relevant recommendations from the analysis. Prerequisite: successful completion of the MBA foundation requirements. Offered Fall.

BUS 731 Cr.3
Decision Making and Framing for Managing & Leading People in Organizations
This course aims to integrate discipline-specific knowledge and skills developed in the MBA foundation courses in an effort to enhance managerial decision making abilities under uncertainty. The focus of the course will be on problem analysis and decision making through the lens of managing and leading people in organizations. An interdisciplinary approach is taken by integrating critical knowledge and practices from various business fields such as organizational behavior, human resource management, strategic management, personnel economics, and/or other management-related areas. This course emphasizes the development of critical thinking skills and application of analytical reasoning tools. Extracting useful insights and drawing managerially-relevant recommendations from the analysis are further cornerstones of the course. Prerequisite: successful completion of the MBA foundation requirements. Offered Spring.

BUS 735 Cr.4
Business Decision Making and Research Methodology
This course introduces a variety of quantitative and qualitative methods that support business decision-making and research. These methods range from quantitative approaches like multivariate analysis, simulation and linear programming to qualitative approaches that use unstructured forms of data collection, both by interviewing and observation. Students will achieve conceptual understanding of the research methods covered in the course and acquire hands-on experience in applying these methods to practical business situations and business research while using computer-based tools. Prerequisite: successful completion of the MBA foundation requirements. Offered Fall.

BUS 750 Cr.3
Business Law, Ethics, and Social Responsibility
This course analyzes business decisions in the context of law, ethics, and corporate social responsibility. The course provides a balanced, global, and interdisciplinary approach that examines the complex and diverse principles central to the legal and ethical management of business organizations. The course will examine these issues in domestic and international business decision situations, explore solutions from alternative paradigms of leadership and corporate governance, and incorporate them when formulating organizational tactics and strategy. Prerequisite: BUS 730. Offered Spring.

BUS 755 Cr.3
Managing in a Changing Technological Environment
This course examines the challenging issue of managing fast-changing information technology (IT) to support modern business operations and strategic initiatives. While concepts and models of business analysis are introduced through lectures, case analysis is used extensively to study major IT management issues in various organizations, industries, and countries. To bridge the gap between textbooks and the rapidly evolving IT, the course also employs guided research to keep students current on the contemporary IT trends and issues. Prerequisite: BUS 730. Offered Spring.

BUS 760 Cr.4
Managing in a Global Environment
This course develops the critical skills and integrated knowledge necessary to function effectively in today's global environment. The course describes how global agreements, changing technologies, global institutions and evolving political patterns affect the conduct of global business. This course develops the ability to frame problems from multiple managerial perspectives - including operational, economic, environmental, ethical, financial, cultural, and technological frames of reference - and to apply sophisticated decision making and coalition building processes to arrive at integrated solutions in a diverse and changing world. This course will typically employ a problem-based approach to the subject area and will seek to integrate, in this approach, such traditional functional disciplines as operations, logistics, marketing, finance, accounting, information systems, and management. This course is offered as a campus course and an Internet course. Prerequisite: BUS 730. Offered Fall, Spring, Summer.

BUS 780 Cr.1-6
Internship in Business Administration
This course is a practical learning experience designed to apply the skills and competencies acquired within the MBA program to challenging business problems in both the profit and non-profit sectors. Repeatable for credit - maximum six. Prerequisite: successful completion of the MBA core curriculum and written approval of the MBA program director. Consent of department. Offered Occasionally.
Chemistry (CHM) - Graduate Courses

Courses

CHM 412/512 Cr.3
Environmental Chemistry
This course examines the role of chemistry in shaping our environment, including atmospheric, aqueous, and terrestrial components. Students learn how fundamental chemical principles are applied to complex real systems in order to characterize environmental behavior and aid in prediction and decision making. Specific topics explored include climate change, ozone depletion, smog formation, water quality and treatment, energy policy, and the fate/transport of pollutants. Prerequisite: CHM 301. Offered Spring.

CHM 417/517 Cr.4
Biochemistry I: Macromolecules
A study of the structure and function of biological macromolecules with special emphasis on proteins. Topics include protein folding, protein-ligand interactions, protein function, and membrane structure and function. The laboratory focuses on contemporary biochemical techniques including quantitative biochemical assays, ligand binding, protein purification, and enzyme function. Lect 3, Lab 3. Prerequisite: "C" or higher in CHM 300 or CHM 304; BIO 315 or MIC 425 recommended. Students with credit in CHM 325 cannot earn credit in CHM 417/517. Offered Fall.

CHM 418/518 Cr.3
Biochemistry II: Metabolism and Genetic Information
This course provides a comprehensive and integrative approach to fundamental metabolism and the flow of genetic information. In particular, the course emphasizes the chemical principles governing metabolite inter-conversions, energy flow, regulation of metabolic pathways, and the maintenance of genetic information. Prerequisite: "C" or better in CHM 517. BIO 306 and BIO 315; or MIC 416 and MIC 425 recommended. Offered Fall.

CHM 419/519 Cr.3
Advanced Biochemistry Lab
A capstone biochemistry laboratory course that provides students with the opportunity to undertake hypothesis-driven research. Students will use a variety of contemporary biochemical and biophysical techniques to study biomolecular structure and function. As the capstone in the biochemistry major, students will give written and oral reports of their work that incorporate the primary literature. Lect 1, Lab 6. Prerequisite: "C" or better in CHM 517; CHM 518 or concurrent enrollment. Offered Spring.

CHM 421/521 Cr.1-3
Advanced Topics in Chemistry
An advanced topic in chemistry based on appropriate prior work in physical chemistry, organic chemistry, inorganic chemistry, and analytical chemistry. Lecture and laboratory will be adapted to the topic being taught. May be repeated for credit when different topic is presented. Repeatable for credit - no maximum. Prerequisite: determined based on topic offered and include a minimum of three semesters of chemistry courses. Offered Occasionally.

CHM 422/522 Cr.3
Polymer Chemistry
A study of synthetic high molecular weight materials of practical application in industry or of theoretical interest in chemistry. Representative polymer systems are examined with respect to the effect of molecular weight, weight distribution, and structure on physical properties. The choice of monomeric starting materials and mechanisms of polymerization are examined in detail. Methods of characterizing macromolecules are surveyed. Lect. 2, Lab 2. Prerequisite: CHM 304; CHM 309 highly recommended. Offered Occasionally.

CHM 424/524 Cr.3
Spectroscopy
A survey of important spectroscopic methods used in chemistry: infrared and ultraviolet, proton and carbon-13 NMR, and mass spectrometry. Theory and practice of techniques are covered. Emphasis is placed on structure determination of organic molecules. Analysis of dynamic systems and mixtures may also be covered. Lect. 2, Lab 3. Prerequisite: CHM 300 or CHM 304. Offered Spring - Even Numbered Years.

CHM 530 Cr.3
Chemistry in the Health Sciences
The application of chemical principles to the health sciences. Topics include, but are not limited to the chemistry of drugs, topical and inhalation anesthetics, and pH regulation. Prerequisite: admission to the Master of Science - Biology: Nurse Anesthesia Concentration Program. Offered Fall, Spring.

CHM 431/531 Cr.3
Advanced Inorganic Chemistry
An advanced course in inorganic chemistry building upon foundations presented in CHM 231, intended to highlight a more advanced theoretical treatment of inorganic compounds and reactions and applications of inorganic chemistry principles to catalysis, functional materials, and biological systems. Prerequisite: CHM 231; CHM 310 or concurrent enrollment. Offered Spring - Odd Numbered Years.

CHM 441/541 Cr.4
Instrumental Analysis
A study of the theory and principles of chemical instrumentation including the application of basic electronics, spectroscopy, separation science and electroanalytical methods of chemical analysis. Lect. 3, Lab. 3. Prerequisite: CHM 301. Offered Fall.
CHM 461/561 Cr.4
Nuclear Chemistry
A study of the decay of radioactive nuclides with emphasis on the theory of nuclear decay. Laboratory will include the study of the detection of radiation, methods of radio analysis and the safe handling of unsealed radioactive sources. Lect. 3, Lab. 3. Prerequisite: four semesters of chemistry courses. Students with credit in CHM 361 cannot earn credit in CHM 461/561. Offered Fall.

CHM 789 Cr.1-3
Directed Study
Independent study under the direction and supervision of a chemistry faculty member. Repeatable for credit - maximum six. Consent of instructor. Offered Fall, Winter, Spring, Summer.

Clinical Laboratory Science (CLI) - Graduate Courses

Courses

CLI 440/540 Cr.1
Clinical Parasitology
Course covers important parasites of humans, including zoonoses and emerging parasitic diseases. Life cycles, clinical features, infective diagnostic stages will be included in the lecture component. The laboratory will include demonstrations and diagnostic procedures. This course will provide the necessary pre-clinical competencies required for advancement to the clinical education component of the Clinical Laboratory Science Program. Lect. 1 or Lab 2. Prerequisites: MIC 230 and admission to the Clinical Lab Science Program, or graduate status. Not open to students who have earned credit in BIO 506. Offered Spring.

Community Health Education (CHE) - Graduate Courses

Courses

CHE 453/553 Cr.1-3
Cultural Issues in Health Ed: Ethnic, Racial, Religious, and Familial Groups
A study of cultural influences on health and illness. Values and attitudes held by different groups in America’s pluralistic society need to be considered in health program planning. Various racial, ethnic, and religious groups' health beliefs and practices will be examined. Cultural influences and patterns of communication within cultures and how these affect health care and utilization of services will be identified. The U.S. health care system will be analyzed in terms of servicing its culturally diverse population. Designed for health professionals, this course will increase their sensitivity in working with people of various cultural origins. Repeatable for credit - maximum three. Offered Occasionally.

CHE 460/560 Cr.1
Medical Terminology for Health Education
Skill development for working with the special language used in clinics, hospitals, and other health agencies. Students in various health fields will learn to use medically related terms in their professional communication. Prerequisite: ESS 205 and ESS 206, or BIO 312 and BIO 313. Offered Fall, Spring.

CHE 465/565 Cr.1
Health Education Marketing
Designed for health educators, this course provides a survey of marketing concepts as applied to health education programs. Marketing as part of the health planning and evaluation process will be discussed. Marketing strategies for both public agencies and private businesses will be presented. Prerequisite: CHE 240. Offered Occasionally.

CHE 466/566 Cr.1-3
Worksite Health Promotion
This course will focus on building an understanding of the components necessary for successful worksite health promotion. Included will be the development, implementation, and evaluation of worksite health promotion programs. There will be a direct emphasis on actual worksite conditions and situations, including constraints and advantages. The course will examine the relationship of a worksite health promotion program to the organization as a whole and the potential benefits for both the employee and the employer. Not repeatable for additional credit. Offered Occasionally.

CHE/SHE 475/575 Cr.1-3
Workshop in Health Education
Group study of varying health education topics, community agencies, and educational institutions. Repeatable for credit under different topics - maximum six credits combined CHE/SHE. (Cross-listed with CHE/SHE.) Departmental option for pass/fail grading. Consent of instructor. Offered Occasionally.

CHE 780 Cr.1-8
Community Health Education Preceptorship
Professional experience for graduate students in a variety of community health education and public health settings interacting with diverse populations for a semester or summer session. The candidate works under faculty supervision with a professional in health education and/or health promotion who serves as a mentor. Distinct health educator areas of responsibility are addressed. Repeatable for credit - maximum eight. Consent of department. Offered Fall, Spring, Summer.

Computer Science (CS) - Graduate Courses

Courses

CS 402/502 Cr.3
Web Application Development
This course will give a detailed description of the core concepts and general principles of web application development. The course will cover various protocols, programming languages, scripting languages, data storage and security, layered software architectures, and graphical interface design as they relate to web development. Students will apply these techniques to the development of medium scale web application. Prerequisites: CS 340. Offered Fall - Odd Numbered Years.

CS 503 Cr.1-3
Special Topics in Computer Science for Teachers
A special topics course used to introduce K-12 teachers to computer science content and to curricula and pedagogy designed for K-12 students. Not applicable to the Computer Science Program or Master of Software Engineering degree. Prerequisite: current K-12 teacher certification (any discipline). Consent of instructor. Offered Occasionally.
CS 410/510 Cr.3
**Free and Open Source Software Development**
This course examines all aspects of the Free and Open Source Software movement. The course surveys the various definitions of open source licenses and examples of major free and open source development projects (e.g. the GNU Project, Apache Foundation, Linux). The course also examines the development tools that support developer communities as well as how web-based applications have created the possibility of international development teams. Students will select and contribute to the software development of an existing open source project. Prerequisite: CS 340. Offered Spring - Odd Numbered Years.

CS 418/518 Cr.3
**Mobile Application Development**
An introduction to the concepts and techniques of application development for mobile devices. The course will examine the design constraints of mobile devices, how mobile applications can leverage external data resources, integration of sensor data and the development environment of the chosen platform (e.g. iOS, Android and others). Repeatable for credit with different topic - maximum six. Offered Occasionally.

CS 419/519 Cr.1-3
**Topics in Computer Science**
A special topics course in computer science which will function as a forum for new ideas and testing ground for new courses. Repeatable for credit - maximum six. Consent of instructor. Offered Fall, Spring, Summer.

CS 421/521 Cr.3
**Programming Language Concepts**
A comparative study of the concepts underlying the design of contemporary high-level programming languages, including imperative, functional, logic and object-oriented paradigms; formal representation of syntax and semantics; control structures; data and procedural abstraction; scope and extent; parallelism and exception handling. This course cannot be taken both at the undergraduate level and at the graduate level. Prerequisite: CS 340; CS 225 or MTH 225. Offered Fall, Spring.

CS 431/531 Cr.3
**Introduction to Robotics**
This course is a hands-on introduction to the algorithms and techniques required to write robot control software. Topics include the components of mobile robots and robot manipulators, manipulator kinematics, robot task planning, sensing, sensor fusion, visual servoing and robot control concepts. Offered Spring - Odd Numbered Years.

CS 441/541 Cr.3
**Operating System Concepts**
The study of the structures and algorithms of operating systems. Operating systems are viewed as managers and controllers of resources such as processors, memory, input and output devices and data. Topics include multiprogramming systems, CPU scheduling, memory management and device management. Prerequisite: CS 340; CS 370. Offered Fall, Spring.

CS 442/542 Cr.3
**Structures of Compilers**
An extensive study of all phases of the compilation of high level programming languages. Topics include: scanning, parsing (LL and LR), semantics analysis, symbol table organization and manipulation, internal code generation, storage allocation, optimization and object code generation. Students are required to complete a compiler for a small high-level language. Prerequisite: CS 270; CS 340. Offered Spring.

CS 443/543 Cr.3
**Topics in Operating Systems**
An intermediate course in operating systems extending topics introduced in CS 441. Operating systems concepts are studied in-depth. Typically students will study and modify an existing system. Prerequisite: CS 441. Offered Fall - Even Numbered Years.

CS 446/546 Cr.3
**Object-Oriented Software Development**
Introduction to the concepts and principles of object-orientation (OO). Topics include detailed discussion on analysis and design of OO software systems, notations for OO analysis and design, and comparison of OO programming languages. Advanced topics on object-orientation such as OO testing and Software reuse will be briefly discussed. Prerequisite: CS 340. This course cannot be taken for credit both at the undergraduate level and at the graduate level. Offered Spring.

CS 449/549 Cr.3
**Advances in Software Engineering**
Introduces advanced topics in Software Engineering. Topics include prototyping models, risk analysis, component-oriented software development, software architectures, software reuse, software metrics and quality analysis. Prerequisite: CS 741. Offered Fall - Even Numbered Years.

CS 451/551 Cr.3
**User Interface Design**
This course focuses on the design and implementation of user interfaces. The topics include characteristics of user interfaces, user profiles, user interface design principles, methods and tools for user interface development, evolution of user interfaces, evaluation of user interfaces, and case studies. Prerequisite: CS 340. Offered Fall - Odd Numbered Years.

CS 452/552 Cr.3
**Artificial Intelligence and Pattern Recognition**
An introduction to the fundamental principles of artificial intelligence. Topics include the biological basis for intelligence, classification of object descriptions and pattern recognition, search strategies and game trees, natural language processing, automatic theorem proving, programming for artificial intelligence and knowledge-based systems. Projects include writing a substantial artificial intelligence application program. Prerequisite: CS 340. Offered Fall - Odd Numbered Years.

CS 453/553 Cr.3
**Introduction to Theory of Computation**
An introduction to the theoretical aspects of computation. The capabilities and limits of several computation models are considered including: partial recursive functions, TURING machines, finite state automata and formal languages. The implications of Church’s thesis and unsolvable problems such as the halting problem are discussed. Prerequisite: CS 340. Offered Spring - Even Numbered Years.

CS 454/554 Cr.3
**Digital Image Processing**
This course introduces the fundamentals of digital image processing techniques with an emphasis on the design and implementation of image processing algorithms. Topics include: color models, point-processing techniques, convolution, fourier domain processing, the discrete cosine transform, image compression methodologies, image restoration and enhancement, sampling and image display. Prerequisite: CS 340. This course cannot be taken both at the undergraduate level and at the graduate level. Offered Fall - Even Numbered Years.
Fundamentals of Information Security
This course presents the fundamental concepts of information security. Basic policies, techniques and tools for maintaining the security of host computer, information networks and computer software are presented. Elementary cryptography is explored with special attention to applications in data encryption, hashing and digital signatures. Fundamental security management procedures are also introduced, as are the legal and ethical issues associated with computer security. Students will be expected to apply the knowledge gained to construct security policies and practice security in the form of access privileges, firewalls, vulnerability scanners and intrusion detection tools. Prerequisite: CS 220. This course cannot be taken both at the undergraduate level and at the graduate level. Offered Fall - Odd Numbered Years.

Secure Software Development
Traditionally, software engineering has viewed flaws as the inconsistency of software behavior with its functional requirements. Software security problems, however, can occur in software that contains no such flaws but is nonetheless susceptible to external attack. This course examines known reasons for software security vulnerabilities with an emphasis on best practices for their detection and mitigation, along with general principles for engineering software in ways that enhance security. Prerequisite: CS 340. Offered Spring - Even Numbered Years.

Advanced Database Management Systems
Advanced topics in database management systems. Topics include the relational data model, relational calculus, embedded SQL programming, database application programming, indexing, system software and storage structures for databases, concurrency control, crash recovery, database administration, parallel and distributed databases, object-oriented databases. Prerequisite: CS 364. This course cannot be taken for credit both at the undergraduate level and at the graduate level. Offered Spring - Odd Numbered Years.

Parallel and Distributed Computing
A study of architectures, control software, and applications for parallel and distributed systems. A survey of parallel and distributed architectures including data flow machines, vector processors, shared memory multiprocessors, and message based multiprocessors. Software topics include process communication and synchronization, global state maintenance, negotiation, scheduling, data parallelism, control parallelism, and languages for parallel and distributed computing. Prerequisite: CS 370. Offered Occasionally.

Data Communications
An introduction to data communications, including the electrical properties and software protocols. In addition to presentations of the concepts and techniques used for data communications, several currently used standards and communications networks will be examined. Prerequisite: CS 270; CS 340. Offered Spring - Even Numbered Years.

Internet of Things
This course explores the possibilities which are created when everyday things become connected to the internet and how this can create new ways for humans to interact with computation and for computation to enable human activities. This course involves building small, sensor equipped hardware devices and cloud based software systems using various technologies. Prerequisite: CS 340, CS 372. Offered Annually.

Computer Graphics and Modeling
An introduction to computer graphics in modern computing environments. Topics include geometric transformations, fundamental drawing algorithms, scalable vector graphics (SVG), OpenGL, WebGL, surface shaders, scene graphs, photorealistic rendering, surface mesh data structures, animation and modeling and GPGPU computing. Prerequisite: CS 340; MTH 207. Offered Fall - Odd Numbered Years.

Data Visualization
An introduction to visualizing various forms of data (abstract and concrete) using computer graphics. The course will consider both scientific visualization where the data itself determines the spatial representation and information visualization where appropriate spatial representations are imposed on the data. Prerequisite: CS 575. Offered Spring - Even Numbered Years.

Software Engineering Principles
An advanced course in Software Engineering that provides a broader outlook of software development activities, introduces software qualities, introduces various life cycle models and software development processes that achieve the qualities, introduces principles of testing and maintenance activities, and guides the selection of appropriate life cycle model and software development processes for any given application. Prerequisite: CS 341. Offered Fall.

Formal Methods in Software Development
Introduces various formal notations that are used in software development, the mathematical preliminaries that are required to understand and to use the formal notations, provides hands-on experience with one or two formal notations along with some case studies. Prerequisite: CS 340. Offered Spring.

Software Verification and Validation
This course explains the need for verification and validation, discusses the methods (formal, informal and diagrammatic) and techniques (prototyping and theoretical proof techniques) that implement verification and validation, and provides hands-on experience to apply these methods and techniques to some simple case studies. Automation of verification and validation methods will also be briefly discussed. Prerequisite: CS 741 or concurrent enrollment. Offered Fall.

Management Issues in Software Engineering
This course addresses management issues that are involved in software projects. Some of these issues are group working, allocation of teams and division of labor, feasibility analysis, marketing strategies and project deadlines. Other topics include in-house software development versus outsourcing, customer interaction, standards and organizational impacts on software development. Offered Spring.
CS 751 Cr.1-3
Seminar in Software Engineering
This course is meant for those who want to specialize in one or more areas in Software Engineering such as software reuse, software architectures, software testing, software verification, etc. The workload for the course will include a number of presentations in the class and one or more written reports. Topics of specialization may vary for each semester. Repeatable for credit - maximum six. Prerequisite: CS 741. Consent of instructor. Offered Occasionally.

CS 752 Cr.1-3
Independent Study
This course is meant for those who want to acquire an in-depth knowledge on any Software Engineering topic. Typically, the student may be required to focus on one particular topic and conduct some research on this topic, or to do some software development activities such as analysis, design, implementation or testing. If registered for more than once, a different topic must be chosen each time. Each student is required to submit a report at the end of the term. Repeatable for credit - maximum six. Prerequisite: CS 741. Consent of instructor. Offered Fall, Spring, Summer.

CS 795 Cr.1
Software Development Internship
An academically relevant field experience in government, industry, business, or community agencies. Students must have their internships approved and be advised by the computer science department. Determination of relevancy shall be made by the Career Services Office with the advice and consent of the computer science department. The experience will be supervised closely by the intern’s on-site supervisor, by the Career Services Staff, and by the student’s faculty internship adviser. Students should contact the Career Services Office. Internship does not count for credit towards the MSE program. Repeatable for credit – maximum two. Prerequisite: Master of Software Engineering graduate student status; nine MSE credits earned; 3.5 or higher GPA. Student must be on their internship work site during the semester for which they are registered for academic credit. Consent of instructor. Pass/Fail grading. Offered Fall, Spring, Summer.

CS 798 Cr.1-6
Software Development Project
A major project that requires a detailed analysis of the problem domain, detailed design, implementation and demonstration. The project will be guided by a graduate CS faculty member. Submission of a written project report is required, followed by an oral examination by the Project Evaluation Committee in the CS department. Repeatable for credit - maximum 12. Maximum of six credits per semester. Prerequisite: project proposal must be approved by the Project Evaluation Committee in the CS department. Pass/Fail grading. Offered Fall, Spring, Summer.

Curriculum and Instruction (CI) - Graduate Courses

Courses

CI 560 Cr.1-2
Washburn Academy
Study of a selected topic in science, mathematics, humanities, and the use of technology in education to improve the topic-related competency of classroom teachers and the acquisition of classroom techniques and applications. Open only to teachers who have been selected to participate in the Washburn Academy, an inservice program sponsored and conducted through joint efforts of CESA-4 and UW-L with the support of grants and the business community. Repeatable for credit - maximum four. A maximum of four credits apply to a graduate degree. Pass/Fail grading. Offered Summer.

CI 570 Cr.1-3
Assessment Alternatives
Course will explore current professional recommendations for assessment and alternative formal and informal classroom assessment strategies. Participants will examine current assessment techniques, record keeping, and reporting systems. Repeatable for credit - maximum six. Prerequisite: teacher certification or one methods course and one educational psychology course. Offered Fall, Winter, Spring, Summer.

CI 381/581 Cr.1
Environmental Education Methods
This course is designed to develop an under-standing of curricula, instructional methods and materials and evaluation techniques for K-12 level environmental education based upon educational research, contemporary practices and Wisconsin Department of Public Instruction recommended goals and expectations. Prerequisite: GEO 200; EDS 351 or EDS 402. Offered Fall, Spring.

CI 590 Cr.3
Teaching Thinking Skills: Theory Into Practice
Learn practical and relevant techniques to foster and develop student thinking at higher levels. The course examines strategies for teaching inductive reasoning, problem solving, critical thinking, analysis and synthesis skills, pattern recognition, and inquiry skills. The course explores the use of multiple intelligences and learning style theories to promote higher level thinking and motivation to learn. Offered Occasionally.

CI 606 Cr.1-2
Teaching Basic Writing Skills
A developmental approach to teaching basic writing skills at the middle/junior and the senior high school levels. The course will examine philosophies, conceptual frameworks, and techniques in teaching writing. Special emphasis will be given to the concept of writing across curricular subject matter areas. Prerequisite: teaching experience. Offered Occasionally.

CI 470/670 Cr.1-3
Symposium in Education
Studies in education of interest to specific groups. Varying topics will be offered at intervals with a specific title assigned to each. Repeatable for credit - maximum six. Departmental option for pass/fail grading. Prerequisite: admission to teacher education. Offered Fall, Winter, Spring, Summer.
CI 695 Cr.3  
**Supervision of Student Teaching**  
Designed especially for supervising teachers having student teachers or teacher interns under their direction, and for other teachers interested in preparing for teacher supervising responsibilities. Emphasis on objectives of student teaching, orientation and induction, roles and responsibilities of personnel, instructional planning and implementation, process of supervision and post-instructional conferencing. Additional topics are Wisconsin PI34 expectations, the SoE Conceptual Framework, SoE programs, InTASC standards, Teacher Educator Standards, and the edTPA. Repeatable for credit - maximum six. Prerequisite: certification for teaching, a baccalaureate degree, and teaching experience. Consent of instructor. Offered Spring, Summer.

CI/EFN 750 Cr.1-3  
**Curriculum in the Elementary School**  
Historical, political, sociological and philosophical foundations of curriculum planning in elementary schools. Development and implementation of an elementary curriculum emphasizing authentic learning. Prerequisite: teaching experience. Offered Occasionally.

CI 710 Cr.1-3  
**Seminar in Middle School Interdisciplinary Teams**  
The course is designed to help teachers, administrators and other personnel understand the role of teaming in the middle school philosophy, team development, team function, and team effects on delivery of instruction, student development and school organization. Matters of curriculum, program evaluation, student assessment and political dynamics will be included. Prerequisite: teaching certification. Offered Occasionally.

CI/EFN 715 Cr.1-3  
**Issues and Trends in Education**  
Current critical issues in education on the state, national and international levels. Repeatable for credit - maximum 30. (Cross-listed with CI/HED; may only earn credit in one department.) Offered Fall, Spring, Summer.

CI 736 Cr.1-3  
**Individualized Instruction**  
A focus on needs, practices, and plans for implementing an individualized program of instruction in the public schools. Repeatable for credit - maximum three. Offered Occasionally.

CI 738 Cr.3  
**Curriculum in the Middle Level/Secondary Schools**  
Focuses on the historical, political, sociological, and philosophical foundations of curriculum planning and the construction, implementation, and evaluation of middle level/secondary school curriculum. Emphasis on research-supported principles of curriculum development and application of these principles to promote authentic learning and support the concept of a learning community with multiple stakeholders. Prerequisite: teacher certification. Offered Occasionally.

CI 739 Cr.3  
**Research/Practice in Improving Written Expression**  
Students will examine current research on the teaching of writing, as well as develop and share practical suggestions for improving students’ written expression. Prerequisite: teacher certification or experience. Offered Occasionally.

CI 742 Cr.3  
**Guided Learning**  
Study of a significant problem, development of a professionally related competency, or acquisition of job-related knowledge through independent study on or off campus under the direction of a faculty member. On occasion, individuals may be formed into classes. Repeatable for credit - maximum six. Prerequisite: classroom teaching experience. Offered Occasionally.

CI/EFN 751 Cr.1-3  
**Teacher Inquiry: Assessing Classroom Practices**  
This course will assist experienced educators in focused efforts to improve classroom practices through disciplined inquiry. Participants will identify questions about their own teaching and/or their students’ learning, and conduct systematic investigations into those questions. Repeatable for credit - maximum six. Prerequisite: classroom teaching experience. Offered Occasionally.

CI 752 Cr.3  
**Principles and Problems of Curriculum Development**  
Theoretical frameworks for curriculum development. Principles and problems pertaining to four standard phases of curriculum construction: analysis, design, implementation, and evaluation. Emphasis is upon developing or revising existing school curriculum. Prerequisite: teaching experience. A graduate curriculum course is highly recommended. Offered Occasionally.

CI/EFN 761 Cr.2  
**Seminar Paper**  
Completion of an acceptable seminar paper under the direction of an assigned staff member. Prerequisite: EFN 760 or concurrent enrollment. (Cross-listed with CI/EFN; may only earn credit in one department.) Offered Fall, Winter, Spring, Summer.

CI 770 Cr.1-6  
**Practicum in Education**  
Designed to assist teachers as they seek methods and materials to upgrade their teaching skills. Emphasis will be on the implementation of various teaching techniques and will involve on-site supervision by the college instructor. Repeatable for credit - maximum six. Offered Occasionally.

CI 780 Cr.3  
**Administration and Organization of Public Education**  
Introduction to the study of educational administration with emphasis upon the nature of administrative theory and process. Study of behavior patterns and decision-making process of successful administrators in various settings. Offered Occasionally.

CI/RDG 781 Cr.3  
**Educational Supervision**  
Exploration of the nature and scope of responsibilities of areas in educational supervision. Special emphasis will be given to the improvement of instruction and curriculum development through the study of interpersonal relations. (Cross-listed with EDM/RDG; may only earn credit in one department.) Offered Summer.
GEO; may only earn credit in one department.) Offered Spring.

Meteorology and Weather Forecasting
Various principles and laws which govern the behavior of the atmosphere are investigated. Laws of gases and radiation, energy exchange between the earth and the atmosphere, laws of motion, various forces governing atmospheric motion, atmospheric moisture and psychrometry, condensation, precipitable water and precipitation, atmospheric stability/instability, thermodynamic characteristics of the atmosphere, vorticity, and synoptic meteorology are discussed. Surface and upper-air charts, synoptic patterns, thermodynamic charts, radar and satellite images, and weather patterns are analyzed for weather forecasting. Prerequisite: ESC 101 or equivalent. (Cross-listed with ESC/GEO; may only earn four credits total in CI, ESC, EDM, and RDG.) Offered Fall, Winter, Spring, Summer.

Advanced Remote Sensing
Various principles and laws which govern the behavior of the atmosphere are investigated. Laws of gases and radiation, energy exchange between the earth and the atmosphere, laws of motion, various forces governing atmospheric motion, atmospheric moisture and psychrometry, condensation, precipitable water and precipitation, atmospheric stability/instability, thermodynamic characteristics of the atmosphere, vorticity, and synoptic meteorology are discussed. Surface and upper-air charts, synoptic patterns, thermodynamic charts, radar and satellite images, and weather patterns are analyzed for weather forecasting. Prerequisite: ESC 101 or equivalent. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Spring.

Web Mapping
In this course, students will learn how to produce and design interactive Web maps for communication. Web maps take many forms and they are continually changing. Thus, the objective of this course is to do two things: (1) develops proficiency in the scripting languages and tools most frequently used to design and create these maps; and (2) teaches the theory and concepts underlying good Web map design so that as the technologies change in the future students will still be able to design effective Web maps. At the end of this course, students will be able to design a Web map from scratch. Lect. 2, Lab 2. Prerequisite: ESC/GEO 250; ESC/GEO 355; junior standing. (Cross-listed with ESC/GEO, may only earn credit in one department.) Offered Spring.

Biogeography
A systematic analysis of the geographic distribution of organisms from historical, ecological and regional perspectives. Emphasis is placed on the principles and the methods of biogeography. Special reference is made to biogeographic regions, the distribution of organisms in space and time, and ecological biogeography. Prerequisite: ESC 221. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Alternate Years.

Soil Morphology and Genesis
A comprehensive study of soils around the world and the factors and processes that drive their formation and dynamic evolution. Emphasis is placed on soil morphology, pedogenesis, and biogeochemical influences within the soil environment. A one-credit lab section is devoted to the hands-on exploration and study of soils through laboratory and field exercises. Prerequisite: ESC 221 or ESC 222. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Occasionally.

Soil Morphology and Genesis
A systematic study of the interactions between flowing water and surface landforms. Emphasis is placed on watershed and stream development, sediment transport and storage, flow frequency analysis, and applications of fluvial principles to river management and stream restoration. Class activities will include field exercises in the La Crosse region, mathematical analysis of hydrologic variables, and spatial analysis with Geographic Information Systems. Prerequisite: ESC 221 or ESC 222. (Cross-listed with ESC/GEO, may only earn credit in one department.) Offered Spring - Odd Numbered Years.

Biogeography
A systematic analysis of the geographic distribution of organisms from historical, ecological and regional perspectives. Emphasis is placed on the principles and the methods of biogeography. Special reference is made to biogeographic regions, the distribution of organisms in space and time, and ecological biogeography. Prerequisite: ESC 221. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Alternate Years.

Geographic Interpretation of Aerial Photographs
Systematic applications of aerial photographs in the interpretation and analysis of geographic problems. Emphasis is placed on digital photograph interpretation within a geographic information system. Topics include urban and rural land use, natural resource, and environmental assessment. Class activities will include field exercises in the La Crosse region, mathematical analysis of hydrologic variables, and spatial analysis with Geographic Information Systems. Prerequisite: ESC 221 or ESC 222. (Cross-listed with ESC/GEO, may only earn credit in one department.) Offered Occasionally.

Advanced Remote Sensing
Various principles and laws which govern the behavior of the atmosphere are investigated. Laws of gases and radiation, energy exchange between the earth and the atmosphere, laws of motion, various forces governing atmospheric motion, atmospheric moisture and psychrometry, condensation, precipitable water and precipitation, atmospheric stability/instability, thermodynamic characteristics of the atmosphere, vorticity, and synoptic meteorology are discussed. Surface and upper-air charts, synoptic patterns, thermodynamic charts, radar and satellite images, and weather patterns are analyzed for weather forecasting. Prerequisite: ESC 101 or equivalent. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Spring.

Web Mapping
In this course, students will learn how to produce and design interactive Web maps for communication. Web maps take many forms and they are continually changing. Thus, the objective of this course is to do two things: (1) develops proficiency in the scripting languages and tools most frequently used to design and create these maps; and (2) teaches the theory and concepts underlying good Web map design so that as the technologies change in the future students will still be able to design effective Web maps. At the end of this course, students will be able to design a Web map from scratch. Lect. 2, Lab 2. Prerequisite: ESC/GEO 250; ESC/GEO 355; junior standing. (Cross-listed with ESC/GEO, may only earn credit in one department.) Offered Spring.
ESC/GEO 460/560 Cr.3
Environmental Hazards and Land Use Planning
Environmental processes are investigated in light of the hazards they might pose for development and how they may be avoided or mitigated by proper land use planning. Prerequisite: ESC 221 or ESC 222. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Occasionally.
ESC/GEO 470/570 Cr.1-3
Special Topics in Geography/Earth Science
Specifically selected topics or skills which may be designed for the interest of special groups will be offered with formalized instruction and methodology appropriate to geography and/or earth science. May be counted as an elective in the geography major or earth science minor at the discretion of the geography/earth science department. Prerequisite may be required at the discretion of the department. Repeatable for credit - maximum six. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Occasionally.
ESC/GEO 476/576 Cr.1-3
Geography/Earth Science Topics for Teachers
Selected topics in geography and/or earth science pertinent to applications in the teachers’ classrooms. Courses are designed to meet the needs of teachers so that they may implement the course material into their classroom teaching. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Occasionally.
ESC/GEO 490/590 Cr.2-3
Independent Study
Individual readings and investigation of selected problems in geography. Open to senior majors and minors with a “B” (3.00) average in geography. Registration with consent of regular advisor, instructor, department chairperson, and the dean of the college in which the student is enrolled. Repeatable for credit - maximum six. Maximum three credits applicable to major. Maximum three credits from any instructor. (Cross-listed with ESC/GEO; may only earn credit in one department.) Consent of instructor. Offered Fall, Winter, Spring, Summer.
ESC/GEO 495/595 Cr.1-3
Seminar in Geography/Earth Science
Investigation into various topics in geography or the earth sciences. Varying topics will be offered at intervals with a specific title assigned to each. Repeatable for credit - maximum six. Variable topics - check semester timetables. Prerequisite: two semesters of geography and/or earth science. Additional prerequisites may be required by the instructor. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Occasionally.
ESC/GEO 790 Cr.1-3
Directed Study
Individual readings and investigations of selected topics in geography and earth science. Repeatable for credit – maximum three. Prerequisite: permission of the instructor and the department chair. (Cross-listed with ESC/GEO; may only earn credit in one department.)

Courses (ECO) - Graduate Courses

ECO 400/500 Cr.3
Monetary Theory and Policy
This course is concerned with the theory and practice of monetary policy in the modern market economy, with particular reference to the U.S. economy and institutional framework. Topics covered include: the ability of the central bank to regulate the supply of money and credit conditions; factors affecting the demand for money; and the relationship between changes in the money supply and interest rates and the impact of changes in each of these on other economic variables. Prerequisite: ECO 301. Offered Occasionally.
ECO 402/502 Cr.3
Public Sector Economics
Theory and policy of revenues and expenditures in the public sector. Public sector issues are analyzed using public choice theory and cost-benefit analysis. Expenditure programs and taxation are considered at the national, state, and local government levels. Prerequisite: ECO 110. Offered Occasionally.
ECO 409/509 Cr.3
Econometric Methods
Development of statistical techniques used in empirical economics analysis. Emphasis will be placed on the theory and application of the linear regression model. Prerequisite: ECO 307 or MTH 305; one economics course at 300 level or above. Offered Occasionally.
ECO 474/574 Cr.1-3
Economic Forum
Emphasis will be on examination and study of current economic issues. Topics will vary from semester to semester. Repeatable for credit - maximum six. Prerequisite: ECO 110, ECO 120. Offered Occasionally.
ECO 703 Cr.1
Foundations of Microeconomics
Introduction to microeconomics analysis with an emphasis on effective decision-making. Topics include: supply and demand, profit maximization, pricing strategies, market structures, antitrust regulation, and strategic positioning for competitive advantage. This course is an internet MBA foundation course. Offered Occasionally.
ECO 704 Cr.1
Foundations of Macroeconomics
Introduction to macroeconomics analysis with an emphasis on effective decision-making. Topics include: monetary policy, fiscal policy, and the economics of international trade and exchange rates. This course is an internet MBA foundation course. Prerequisite: ECO 703 or a previous economics course. Offered Occasionally.
ECO 712 Cr.3
Business Fluctuations
An introduction to the dynamic analysis of the aggregate economy. Topics include economic models and dynamic analysis, production and economic growth, consumption and saving, government activity and its financing, money and the price level, unemployment, and aggregate forecasting. Offered Occasionally.
ECO 740 Cr.3
Macroeconomic Policies in Global Economy
A detailed examination of the fundamentals of international monetary economics and macroeconomic policies. Currency markets and exchange rates, the balance of payments accounts, the market for goods and services, and money and the banking system in relation to foreign exchange will be discussed. Short-run and long-run macroeconomic policies under fixed and flexible exchange rates, and their impact on interest rates, prices, and output are emphasized. Offered Occasionally.
**Courses**

**EDU 601 Cr.1**  
**Learning in Community I: Introduction**  
In this first course of four, students will be introduced to the concept of learning in community. Coursework requirements include application to the workplace setting and communication via technology. The key concepts of this course include: classroom climate, communication, community building, facilitation, personality typologies, and values. Prerequisite: admission to the Learning Community Program. Offered Fall, Spring, Summer.

**EDU 602 Cr.1**  
**Learning in Community II: Exploration**  
In this second course of four, students will explore the concept of learning in community. Coursework requirements include application to the workplace setting and communication via technology. The key concepts of this course include: classroom climate, communication, community building, facilitation, personality typologies, and values. Prerequisite: EDU 601; admission to the Learning Community Program. Offered Fall, Spring, Summer.

**EDU 611 Cr.1**  
**Technology in Education I: Introduction**  
In this first course of four, students will be introduced to the concept of technology in education. Coursework requirements include application to the workplace setting and communication via technology. The key concept of this course is an online course management system. Prerequisite: admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

**EDU 612 Cr.1**  
**Technology in Education II: Exploration**  
In this second course of four, students will explore the concept of technology in education. Coursework requirements include application to the workplace setting and communication via technology. The key concepts of this course include the role of technology in education and exploring distance library services. Prerequisite: EDU 611; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

**EDU 621 Cr.1**  
**Best Practice Pedagogy I: Introduction**  
In this first course of four, students will be introduced to best practice pedagogy. Coursework requirements include application to the workplace setting and communication via technology. The key concepts of this course include: teaching standards: National Boards Propositions, Wisconsin Teaching Standards; academic content area/grade level/workplace standards; and constructivism. Prerequisite: admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

**EDU 622 Cr.1**  
**Best Practice Pedagogy II: Exploration**  
In this second course of four, students will explore best practice pedagogy. Coursework requirements include application to the workplace setting and communication via technology. In addition to continuing the concepts from "Best Practice Pedagogy I," the key concepts of this course include: best practice theories and differentiated instruction. Prerequisite: EDU 621; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

**EDU 631 Cr.1**  
**Curriculum Development and Assessment I: Introduction**  
In this first course of four, students will be introduced to curriculum development and assessment. Coursework requirements include application to the workplace setting and communication via technology. The key concepts of this course include: alternative assessment, authentic assessment, assessment: formal and informal, assessment: formative and summative, current best practice assessment strategies, and research-based best practice assessment strategies. Prerequisite: EDU 631; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

**EDU 632 Cr.1**  
**Curriculum Development and Assessment II: Exploration**  
In this second course of four, students will explore curriculum development and assessment. Coursework requirements include application to the workplace setting and communication via technology. The key concepts of this course include: alternative assessment, authentic assessment, assessment: formal and informal, assessment: formative and summative, current best practice assessment strategies, and research-based best practice assessment strategies. Prerequisite: EDU 631; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

**EDU 641 Cr.1**  
**Educational Research I: Introduction**  
In this first course of four, students will be introduced to the concept of educational research. Coursework requirements include application to the workplace setting and communication via technology. The key concepts of this course include: professional writing according to American Psychological Association (APA), research skills, defining the research question, educational research methods, and data collection methods. Prerequisite: admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

**EDU 642 Cr.2**  
**Educational Research II: Exploration**  
In this second course of four, students will explore and design educational research. Coursework requirements include application to the workplace setting and communication via technology. The key concepts of this course include: professional writing according to the American Psychological Association (APA), action research design, action research proposal, and institutional review board. Prerequisite: EDU 641; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.
EDU 650 Cr.2
Practicum I in Education
This first practicum experience will involve observation and reflection of the classroom, teacher, and learners. This will include an introduction to the teaching profession in the U.S. and participation in best practice activities. The learner will share best practices and pedagogy of their home nation with the PK-12 PLC and their ME-PD Learning Community. To be taken concurrently with the first full semester ME-PD Learning Community load. May not be taken concurrently with any other clinical experience course. This course is waived for licensed teachers and other educational professionals in the United States. This course includes a field component and a seminar. Prerequisite: admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

EDU 651 Cr.1
Democracy, Diversity and Social Justice in Education I: Introduction
In this first course of four, students will be introduced to the concepts of democracy, diversity, and social justice in education. Coursework requirements include application to the workplace setting and communication via technology. The key concepts of this course include: diversity issues, privilege and power, language and communication, and democracy. Prerequisite: admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

EDU 652 Cr.1
Democracy, Diversity and Social Justice in Education II: Exploration
In this second course of four, students will explore the concepts of democracy, diversity, and social justice in education. Coursework requirements include application to the workplace setting and communication via technology. The key concepts of this course include: diversity issues, harassment and bullying, and democracy in schools. Prerequisite: EDU 651; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

EDU 661 Cr.1
Teacher Leadership I: Introduction
In this first course of four, students will be introduced to the concept of teacher leadership. Course requirements include application to the workplace setting and communication via technology. The key concepts of this course include: teaching and academic content standards, baselines, professional history, professional visioning, and reflective practice. Prerequisite: admission to the MEPD Learning Community Program. Offered Fall, Spring, Summer.

EDU 662 Cr.1
Teacher Leadership II: Exploration
In this second course of four, students will explore the concept of teacher leadership. Coursework requirements include application to the workplace setting and communication via technology. The key concepts of this course include: professional development plan and portfolio, communication skills, facilitation skills, reflective practice, and current trends in educational issues. Repeatable for credit - maximum two. Prerequisite: EDU 661; admission to the MEPD Learning Community Program. Offered Fall, Spring, Summer.

EDU 703 Cr.1
Learning in Community III: Integration
In this third course of four, students will integrate the concept of learning in community. Coursework requirements include application to the workplace setting and communication via technology. The key concepts of this course include: communication, community building, facilitation skills, personality typologies, and values. Prerequisite: EDU 601; EDU 602; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

EDU 704 Cr.1
Learning in Community IV: Action
In this fourth course of four, students will take action with regard to learning in community. Coursework requirements include application to the workplace setting and communication via technology. The key concepts of this course include: communication, community building, facilitation skills, and values. Prerequisite: EDU 601, EDU 602, EDU 703; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

EDU 713 Cr.1
Technology in Education III: Integration
In this third of four courses, students will integrate technology in education. Coursework requirements include application to the workplace setting and communication via technology. In addition to continuing the concepts from "Technology in Education" I & II, the key concepts for this course include: information technology, instructional technology, and technology tools for the action research process. Prerequisite: EDU 611; EDU 612; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

EDU 714 Cr.1
Technology in Education IV: Action
In this fourth course of four, students will take action with regard to technology in education. Coursework requirements include application to the workplace setting and communication via technology. In addition to continuing the concepts from "Technology in Education" I, II, & III, the key concepts of this course include: informational technology, instructional technology, and technology safety. Prerequisite: EDU 611, EDU 612, EDU 713; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

EDU 715 Cr.2
Common Core Assessment in English Language Arts Elementary
In this course, students will examine their current practices of assessment in regard to the English Language Arts (ELA) Common Core State Standards (CCSS). After unpacking the ELA Standards for their grade levels, students will develop a practitioner's assessment toolkit with both instruction and assessment in the classroom. Response to Intervention and differentiation models will be examined in depth in order to ensure success for all students. Not applicable to a master's degree in MEPD initial certification, reading, or special education. Prerequisite: admission to English Language Arts Elementary Certificate Program or approval from Institute for Professional Studies in Education (IPSE). Offered Fall, Spring, Summer.

EDU 716 Cr.2
Effective Communication Through Language
Students will examine research and best practices to support the Speaking and Listening Strand of the English Language Arts (ELA) Common Core State Standards (CCSS). Students will define what makes up a classroom community, the importance of building a classroom community, and how to begin the construction process. Students will then examine strategies to help elementary students interact appropriately with adults and peers and how their own students can be doing grade level appropriate presentations. Students in this class will be working on developing lessons and strategies that will help their own students comprehend and interact with the spoken word. Not applicable to a master's degree in MEPD initial certification, reading, or special education. Prerequisite: admission to English Language Arts Elementary Certificate Program or approval from Institute for Professional Studies in Education (IPSE). Offered Fall, Spring, Summer.
**EDU 717 Cr.2**  
**Foundation of Literacy for Professional Educators**  
In this course, students will gain knowledge of the foundational skills needed to implement the English Language Arts (ELA) Common Core. Students will unpack the standards for their specific grade level and/or curricular area. In order to strengthen their professional practice, students will collaborate with peers to refine their teaching practice to embody concepts of print, phonological awareness, phonics and word recognition, and fluency. The assignments and assessments will be directly applicable to the learner’s professional practice. Not applicable to a master’s degree in MEPD initial certification, reading, or special education. Prerequisite: admission to English Language Arts Elementary Certificate Program or approval from Institute for Professional Studies in Education (IPSE). Offered Fall, Spring, Summer.

**EDU 718 Cr.2**  
**Writing and Language Exploration**  
Students will examine research and best practices to support the Writing and Language strands of the English Language Arts (ELA) Common Core State Standards (CCSS). Students will: 1) unpack writing and language standards for their specific grade level; 2) develop a year long plan for writing and language instruction; 3) participate as writers to become comfortable in the three types of writing required by the common core; 4) collaborate with peers to practice and refine their instruction; and 5) implement lessons and strategies in their professional practice to improve student achievement. Not applicable to a master’s degree in MEPD initial certification, reading, or special education. Prerequisite: admission to English Language Arts Elementary Certificate Program or approval from Institute for Professional Studies in Education (IPSE). Offered Fall, Spring, Summer.

**EDU 719 Cr.2**  
**Research Based Best Practice in Reading**  
Students will examine research and best practices to support the reading literature and informational text strands of the English Language Arts (ELA) Common Core State Standards (CCSS). Students will: 1) compare and contrast the key ideas and details, craft and structure, integration of knowledge and ideas, and range of reading and level of text complexity for both reading literature and informational text. 2) collaborate with peers to practice and refine their instruction to include demonstration, student engagement, and independent application. Assignments and assessments will be directly applied to the learner’s professional practice. Not applicable to a master’s degree in MEPD initial certification, reading, or special education. Prerequisite: admission to English Language Arts Elementary Certificate Program or approval from Institute for Professional Studies in Education (IPSE). Offered Fall, Spring, Summer.

**EDU 720 Cr.2**  
**Digital Literacy and the Common Core**  
In this course, students will examine the research and best practices to support all of the strands of the English Language Arts (ELA) Common Core State Standards (CCSS) in the area of digital literacy. Students will learn how to search efficiently and evaluate websites for validity. Students will collaborate using a variety of online tools including wiki’s, blogs, and other social media. Lastly, students will implement lessons and strategies in their professional practice to help achieve career and college readiness skills for their students. Not applicable to a master’s degree in MEPD initial certification, reading, or special education. Prerequisite: admission to English Language Arts Elementary Certificate Program or approval from Institute for Professional Studies in Education (IPSE). Offered Fall, Spring, Summer.

**EDU 723 Cr.1**  
**Best Practice Pedagogy III: Integration**  
In this third course of four, students will integrate best practice pedagogy. Coursework requirements include application to the workplace setting and communication via technology. In addition to continuing concepts from “Best Practice Pedagogy” I & II, key concepts for this course include current best practice strategies and research-based best practice strategies. Prerequisite: EDU 621, EDU 622; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

**EDU 724 Cr.1**  
**Best Practice Pedagogy IV: Action**  
In this fourth course of four, students will take action with regard to best practice pedagogy. Coursework requirements include application to the workplace setting and communication via technology. In addition to continuing concepts from “Best Practice Pedagogy” I, II, & III, the key concepts for this course include current best practice strategies and research-based best practice assessment strategies and curriculum frameworks. Prerequisite: EDU 621, EDU 622, EDU 723; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

**EDU 733 Cr.1**  
**Curriculum Development and Assessment III: Integration**  
In this third course of four, students will integrate curriculum development and assessment. Coursework requirements include application to the workplace setting and communication via technology. In addition to continuing the concepts from “Curriculum Development and Assessment” I & II, the key concepts for this course include: current best practice assessment strategies, research-based best practice assessment strategies, and curriculum frameworks. Prerequisite: EDU 631, EDU 632, EDU 733; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

**EDU 734 Cr.1**  
**Curriculum Development and Assessment IV: Action**  
In this fourth course of four, students will take action on curriculum development and assessment. Coursework requirements include application to the workplace setting and communication via technology. In addition to continuing the concepts from “Curriculum Development and Assessment” I, II, & III, the key concepts for this course includes: curriculum development and assessment as a foundation for learning. Prerequisite: EDU 631, EDU 632, EDU 733; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

**EDU 735 Cr.3**  
**Foundations of Professional Learning Communities**  
In this course, students will gain knowledge of the essential components of a Professional Learning Community (PLC). Using acquired knowledge, students will analyze the progress of their school or district on the PLC continuum. Students will investigate ways to build a culture of collaboration that improves student learning and will be expected to continuously apply PLC tenets to their practice. Not applicable to a master’s degree in MEPD initial certification, reading, or special education. Prerequisite: admission to Professional Learning Community Certificate Program or approval from Institute for Professional Studies in Education (IPSE). Offered Fall, Spring, Summer.
EDU 736 Cr.3
Assessments, Grading and Professional Learning Communities
In this course, students will gain knowledge of how assessment and grading are related to the fundamental purpose of ensuring high levels of learning for all students in a Professional Learning Community (PLC). Using acquired knowledge, students will analyze the progress of their school or district on the PLC continuum in areas related to assessment and grading. Students will investigate formative and summative assessment. In addition, students will learn how to collaborate in a PLC project to use the results of common assessments to inform instruction and improve student achievement. Prerequisite: admission to Professional Learning Community Certificate Program or approval from Institute for Professional Studies in Education (IPSE). Offered Fall, Spring, Summer.

EDU 737 Cr.3
Teacher Leadership-Professional Learning Communities
In this course, students will apply their knowledge of the essential components of a Professional Learning Community (PLC) in their school setting. Using acquired knowledge, students will implement an action plan that they created in semester I. The course will conclude with a culminating project which includes an updated action plan, a reflection paper and artifacts. Not applicable to a master’s degree in MEPD initial certification, reading, or special education. Prerequisite: admission to Professional Learning Community Certificate Program or approval from Institute for Professional Studies in Education (IPSE). Offered Fall, Spring, Summer.

EDU 738 Cr.3
Professional Learning Community in the Content Areas
In this course, students will apply their knowledge of the essential components of a Professional Learning Community (PLC) in their school setting with an emphasis on content. Using acquired knowledge, students will implement an action plan that they created in semester I. The course will conclude with a culminating project that includes an updated action plan, a reflection paper and artifacts. Students will also explore their PLC and Professional Learning Teams (PLTs) the four core questions of PLCs. Not applicable to a master’s degree in MEPD initial certification, reading, or special education. Prerequisite: admission to Professional Learning Community Certificate Program or approval from Institute for Professional Studies in Education (IPSE). Offered Fall, Spring, Summer.

EDU 743 Cr.1
Educational Research III: Conduct
In this third course of four, students will integrate the concept of educational research. Coursework requirements include application to the workplace setting and communication via technology. The key concepts of this course include: professional writing according to the American Psychological Association (APA), implementation of action research, data collection, and data collection analysis. Prerequisite: EDU 641; EDU 642; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

EDU 744 Cr.2
Educational Research IV: Publication
In this fourth course of four, students will analyze data and publish the results of their educational research in a journal article. Coursework requirements include application to the workplace setting and communication via technology. The key concepts of this course include: professional writing according to the American Psychological Association (APA), data collection analysis, research and leadership, and dissemination of results. Prerequisite: EDU 641, EDU 642, EDU 743; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

EDU 753 Cr.1
Democracy, Diversity and Social Justice in Education III: Integration
In this third course of four, students will integrate democracy, diversity, and social justice in education. Coursework requirements include application to the workplace setting and communication via technology. The key concepts of this course include: diversity issues and democracy in the classroom. Prerequisite: EDU 651, EDU 652; admission to MEPD Learning Community Program. Offered Occasionally.

EDU 754 Cr.1
Democracy, Diversity and Social Justice in Education IV: Action
In this fourth course of four, students will take action with regard to democracy, diversity, and social justice in education. Coursework requirements include application to the workplace setting and communication via technology. They key concepts of this course include: current social justice issues and educational policy. Prerequisite: EDU 651, EDU 652, EDU 753; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

EDU 763 Cr.1
Teacher Leadership III: Integration
In this third course of four, students will integrate teacher leadership into practice. Course requirements include application to the workplace setting and communication via technology. In addition to continuing the concepts from "Teacher Leadership" I & II, key concepts for this course include: educational policy and legislation, school systems, and current trends related to educational improvement. Prerequisite: EDU 661; EDU 662; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

EDU 764 Cr.1
Teacher Leadership IV: Action
In this fourth course of four, students will take action with regard to teacher leadership. Course requirements include application to the workplace setting and communication via technology. The key concepts for this course include: leadership theory and dissemination of action research. Prerequisite: EDU 661; EDU 662; EDU 763; admission to MEPD Learning Community Program. Offered Fall, Spring, Summer.

EDU 765 Cr.3
Introduction to Educational Leadership
In this course, learners will explore the concept of educational leadership. More specifically, what is the role of the principal in ensuring they lead a school whereas all of their students can achieve the highest levels of academic success? What is the role of principal in creating and building a school community focused on continual reflection and improvement? With that, we will explore educational leadership via a cognitive approach grounded in the following three elements: (1) Socio-cognitive leadership - A shared cognitive approach to decision making present in schools that have successfully closed achievement gaps. (2) The Dimensions of Leadership for Learning - Where school principals focus their time and attention as a catalyst for student improvement. (3) Levers of Change - The individual, organizational, and community levers that master principals use to further the Dimensions of Leadership for Learning (Kelly & Shaw, 2009). In addition to a focus on socio-cognitive leadership, learners will consider the balance between the symbolic and technical sides of educational leadership. Finally, the concept of educational leadership will be grounded in conversations related to the importance of principal professional development to include the importance of personal development and personal satisfaction. Prerequisite: admission into the Educational Leadership Certificate Program or consent of IPSE Director. Offered Fall, Spring, Summer.
EDU 766 Cr.3
The Principalship
The task of a principal in the PK-12th grade environment is both demanding and complex. It requires that the leader be skilled in personnel administration, staff development, evaluation, instructional leadership, the reflective process along with a myriad of additional skills needed to successfully navigate the experiences of being a building principal. This course focuses on the six standards of the Interstate School Leaders Licensure Consortium (ISLLC Standards) using the reflective process as provided by Thomas Sergiovanni. Prerequisite: admission into the Educational Leadership Certificate Program or consent of IPSE Director. Offered Fall, Spring, Summer.

EDU 767 Cr.3
Data-based Decision Making for Instruction
This course explores the use of data as a tool to enhance decision-making processes for continuous school improvement by providing a framework for improving teaching and learning. Upon completion of the course, learners will be able to analyze, report, communicate, and use multiple measures of data for continuous school improvement. This course emphasizes how data can guide leaders through curriculum alignment, supervision of instruction, and professional development. Through assignments and activities learners will put theory into practice. Prerequisite: admission into the Educational Leadership Certificate Program or consent of IPSE Director. Offered Fall, Spring, Summer.

EDU 768 Cr.3
Supervision and Evaluation
This course is intended to examine the foundations of a teacher supervision and evaluation structure which includes emphasis on classroom supervision, adult learning theory, coaching, administration which promotes professional growth, standards for effective teacher evaluation and performance-based methods to teacher growth / school improvement that are closely associated with student learning outcomes. The emphasis of this course will highlight the professionalism of teaching by examining how teachers may actively contribute to determining the emphasis of their professional outcomes while emphasizing student scholarship as their core mission. Prerequisite: admission into the Educational Leadership Certificate Program or consent of IPSE Director. Offered Fall, Spring, Summer.

EDU 769 Cr.3
Leadership and Cultural Competence
This foundation course in leadership and cultural competence enhances the learner’s abilities to comprehend, evaluate, and offer culturally sensitive and competent educational opportunities to diverse school populations. This course gives students the opportunity to reflect upon their own cultural development and to be more responsive to the needs of all students. Prerequisite: admission into the Educational Leadership Certificate Program or consent of IPSE Director. Offered Fall, Spring, Summer.

EDU 770 Cr.3
School Law
This course examines the federal and state school law for educational leaders addressing legal issues impacting the operation of public schools. The topics that will be studied include organizational structures of school, federal, and state systems, church-state related issues, teachers’ rights, rights of students with disabilities, instructional issues, tort liability, and equal opportunities in education. Prerequisite: admission into the Educational Leadership Certificate Program or consent of IPSE Director. Offered Fall, Spring, Summer.

EDU 771 Cr.3
School Finance & Resource Allocation
This course examines the financial contexts and legal requirements of educational budgeting. The roles of federal and state laws, regulations, and tax policies are considered, as are local conditions and concerns, in raising and distributing revenue. The processes of budgetary planning, preparation, management, and control are carefully evaluated. Prerequisite: admission into the Educational Leadership Certificate Program or consent of IPSE Director. Offered Fall, Spring, Summer.

EDU 772 Cr.3
Inclusive Pedagogical Practices
In this course learners will explore how to create and sustain schools that are successful for each of their PreK-12 students. Focus will be placed on shifting school structures from programmatic thinking to a model of service delivery. In addition, discussion will focus on using standards as a catalyst for creative uses of responsive curriculum, innovative teaching strategies, and ongoing assessment. Consideration will be placed on how funding and various laws can be leveraged to support the achievement of all students. Throughout this course learners will examine (1) preventive strategies for fostering student success versus adopting a ‘wait until they fail’ approach, (2) instructional strategies that engage a wide-range of students, (3) how principals can ensure the success of their students, (4) how principals can support their teachers and staff to ensure student success, and (5) standards-based teaching grounded in the needs of a diverse student population. Finally, inclusive educational pedagogies form the spine of this course. Prerequisite: admission into the Educational Leadership Certificate Program or consent of IPSE Director. Offered Fall, Spring, Summer.

EDU 773 Cr.4
Practicum in the Principalship & Practicum Seminar
The purpose of this course is to provide students with practical experience in the school principalship. Per PI 34.15 all learners seeking administrative licenses in the area of the principal must participate in a supervised practicum before graduation from their program. This practicum shall be developmental in nature and provide opportunities that afford the learner to demonstrate their knowledge and understanding of the Wisconsin Content Guidelines for Principal (5051) Licensure Programs. Performance in the principal practicum will be measured via two successful observations by a school-based supervisor (i.e., cooperating principal) as well as two by the supervisor assigned from the University of WI-La Crosse. In addition to successful observations, learners are required to engage in online seminar discussions anchored to the practicum seminar. These discussions are grounded in the day-to-day lives of principals and will support learners in gaining a deeper, authentic understanding of the principalship. Further, during the practicum experience, learners will also have the opportunity to engage in professional discussions with an experienced administrator/cooperating principal and their practicum supervisor. In addition, the practicum affords learners experience engaging in authentic activities to include the opportunity to take risks under the mindful guidance of their cooperating principal and university supervisor. Finally, practicums lead to numerous networking opportunities that can translate into informal support systems post practicum. Prerequisite: admission into the Educational Leadership Certificate Program or consent of IPSE Director. Offered Fall, Spring, Summer.

Educational Foundations (EFN) - Graduate Courses
Courses

EFN 424/524 Cr.3
Theory and Practice of Cooperative Learning
Based on theories of cooperative learning, the course examines practices and strategies which promote student learning and create positive classroom environments. Focus will be on the teacher’s role in academic and social interactions. Total class involvement and small groups will be explored as the primary delivery systems for integrating a cooperative learning model. Prerequisite: EDS 351 or EDS 402 or teacher certification. Offered Occasionally.

EFN 475/575 Cr.1-3
Special Topics Seminar in Education
Special topics in education not covered by current education courses taught in the department. The particular topic selected to be determined by the department according to the current need and interest. Repeatable for credit - maximum six. Prerequisite: admission to teacher education, or certifiability as a teacher, or consent of the department chair. Offered Fall, Winter, Spring, Summer.

EFN 705 Cr.3
Human Relations in School and Society
Examines individual and intergroup relations in society and their impact on classroom interactions. Analysis of the effects of prejudice and discrimination based on race, gender, class and other group identifications. Explores curricular content and instructional strategies which could be integrated into classrooms to address intergroup issues. Offered Fall, Spring.

CI/EFN 715 Cr.1-3
Issues and Trends in Education
Current critical issues in education on the state, national and international levels. Repeatable for credit - maximum 30. (Cross-listed with CI/EFN; may only earn 30 credits total in CI and EFN.) Offered Fall, Spring, Summer.

EFN 736 Cr.3
Interpretation of Current Research
This course is designed to provide students in the non-thesis option with the fundamental background needed to read, interpret, and evaluate current research in health, physical education, and recreation. The student will become familiar with the various research methods and designs utilized in their selected fields. Offered Occasionally.

EFN 739 Cr.1-3
Seminar: Special Problems in Education
Studies of selected problems and topics in education and schooling by advanced students who meet in seminar format to confer, report, present, critique and discuss. Repeatable for credit - maximum three. Prerequisite: graduate level research course. Offered Occasionally.

CI/EFN 750 Cr.1-3
Guided Learning
Study of a significant problem, development of a professionally related competency, or acquisition of job-related knowledge through independent study on or off campus under the direction of a faculty member. On occasion, individuals may be formed into classes. Repeatable for credit - maximum 15. (Cross-listed with CI/EFN; may only earn 15 credits total in CI and EFN.) Consent of instructor. Offered Fall, Winter, Spring, Summer.

EFN 760 Cr.3
Theory and Practice in Educational Research
Study of concepts and processes associated with reading and/or conducting scholarly qualitative, descriptive and experimental research. Identification and examination of retrieval and statistical treatment systems. Practice in reading/reviewing and critiquing published research. Development of a research or grant proposal. Prerequisite: minimum of 12 graduate credits. Offered Fall, Spring, Summer.

CI/EFN 761 Cr.2
Seminar Paper
Completion of an acceptable seminar paper under the direction of an assigned staff member. Prerequisite: EFN 760 or concurrent enrollment. (Cross-listed with CI/EFN; may only earn credit in one department.) Offered Fall, Winter, Spring, Summer.

CI/EDM/EFN/RDG 796 Cr.1-2
Independent Study
Directed readings or presentation of material not available in formal departmental courses under the supervision of an assigned staff member. Repeatable for credit - maximum four. (Cross-listed with CI/EDM/EFN/RDG; may only earn four credits total in CI, EFN, EDM, and RDG.) Offered Fall, Winter, Spring, Summer.

CI/EFN 799 Cr.1-6
Research: Master's Thesis
Completion of an acceptable thesis under the direction of an assigned staff member. Repeatable for credit - maximum six. Prerequisite: EFN 760 or concurrent enrollment. (Cross-listed with CI/EFN; may only earn credit in one department.) Offered Fall, Winter, Spring, Summer.

Educational Media (EDM) - Graduate Courses

Courses

EDM 710 Cr.3
Preparation of Instructional Materials
Design and preparation of instructional materials for use by teachers and media specialists in schools, business and industry. Presents advanced techniques for the utilization of mounting, lettering, computer graphics and other illustration techniques for such final products as paste-ups, transparencies, slide-tape series and displays. A laboratory fee is charged. Materials produced from individually exercised options are retained by the students. Offered Occasionally.

EDM 740 Cr.2-3
Library Media Applications of Microcomputers
Microcomputer based operations such as circulation systems, catalog systems, data base searching, and applications software are covered. Also included are the selection of software and hardware, and the role of the library as a computer resource center. Repeatable for credit - maximum two. Offered Occasionally.

EDM 760 Cr.2-3
Introduction to Educational Research
Emphasis on the concepts and current processes associated with historical, descriptive, and experimental studies. The identification and examination of print and non-print material sources used in retrieving information will be studied. Practice will be given in reviewing and critiquing current, published research studies and in developing a proposal for a research study. Repeatable for credit - maximum three. Offered Occasionally.
EDM 772 Cr 3

School Media Supervisor
Role of the school media supervisor, director, coordinator, or consultant on state, regional, district levels. How this person functions in educational administration, curriculum development, centralized acquisition and processing centers. Principles and problems involved. Offered Occasionally.

CI/EDM/EFN/RDG 796 Cr 1-2

Independent Study
Directed readings or presentation of material not available in formal departmental courses under the supervision of an assigned staff member. Repeatable for credit - maximum four. (Cross-listed with CI/EDM/EFN/RDG; may only earn four credits total in CI, EFN, EDM, and RDG.) Offered Fall, Winter, Spring, Summer.

EDM 799 Cr 2-6

Terminal Projects
As the culminating experience in a graduate program, the student is given three alternative opportunities: 1) complete a practicum in a library/instructional media center; 2) produce an expressive or instructional program of professional proportions; 3) select a problem for individual study and write a seminar paper. In options 2 and 3, the student will develop a performance contract with a project committee. A written narrative may be required as a companion to the project. Repeatable for credit - maximum six. Offered Fall, Winter, Spring, Summer.

Educational Studies (EDS) - Graduate Courses

Courses

EDS 400/500 Cr 1-3

Continuing Education Professional Development
This course provides continuing education opportunities for Educational Professionals on a wide variety of topics. Topics selected for this course will mirror current trends and professional development interests of individual school district or educational institution. Varying topics will be offered with a specific title assigned to each. This course is open to professionals practicing in the education field and offered through the Continuing Education and Extension Office (CEE). Repeatable for credit with a different topic. EDS 400/500 credits cannot be used toward any Department of Educational Studies undergraduate or graduate programs. Consent of instructor. Offered Fall, Winter, Spring, Summer.

EDS 414/514 Cr 1

Foundations of Reading Seminar
The purpose of this course is to review and discuss key concepts related to the foundations of reading, including the sub-areas of (1) foundations of reading development (phonological and phonemic awareness, concepts of print and the alphabetic principle, phonics, word analysis skills), (2) development of reading comprehension (vocabulary development, reading comprehension skills and strategies), and (3) reading assessment and instruction (formal and informal assessments, multiple theories and approaches). In addition, the course prepares pre-service and in-service teachers to demonstrate their knowledge and understanding of teaching reading by composing an organized and developed analysis/written response for given teaching reading scenarios. Repeatable for credit - maximum three. Prerequisite: EDS 412 or concurrent enrollment. Pass/Fail grading. Offered Fall, Winter, Spring, Summer.

EDS 475/575 Cr 1-3

Educational Studies Special Topics
The purpose of this course is to provide opportunities for teacher candidates or aspiring teachers to gain experience and knowledge for education topics. Offered Fall, Winter, Spring.

EDS 600 Cr 3

Research in Education
The design, analysis, and interpretation of quantitative, qualitative data and action research relative to education. Attention is given to assisting students in being critical consumers of the research literature as well as designing their own studies. Prerequisite: admission to a DES graduate program. Consent of instructor. Offered Summer.

EDS 780 Cr 1-3

Contemporary Issues
This course engages students in the examination of a current issue impacting public education and the teaching profession through the integration of focused research, debate, and writing. The issue under study may change each term depending on the importance and currency of the problem. Repeatable for credit - maximum three. Prerequisite: admission to a DES graduate program. Offered Fall, Spring.

English (ENG) - Graduate Courses

Courses

ENG 400/500 Cr 1-3

Workshop
Projects involving trends and issues in composition, language, or literature related to various professional uses of English, with a central topic to be announced before each workshop. Repeatable for credit - maximum six. Offered Occasionally.

ENG 511 Cr 1

Folktales and Other Lore for Children
Close study of various folktales for children. Also studied are myths, legends, tall-tales, Jack-tales, fables, nursery rhymes, skip-rope rhymes, and literary lore. Modern adaptations by contemporary authors are given attention. Prerequisite: three credits in 200-level English courses. Offered Occasionally.

ENG 700 Cr 1-3

Workshop
Projects involving trends and issues in composition, language, or literature related to various professional uses of English, with a central topic to be announced before each workshop. Repeatable for credit - maximum six. Offered Occasionally.

Ethnic and Racial Studies (ERS) - Graduate Courses

Courses

ERS 400/500 Cr 1-3

Individual Study in Ethnic and Racial Studies
Directed reading and research under the supervision of an instructor. Repeatable for credit - maximum six. Consent of instructor. Offered Fall, Spring.

ERS 410/510 Cr 1-3

Contemporary Issues in Ethnic and Racial Studies
An introduction to ethnic minority groups in the United States today emphasizing the historical antecedents of contemporary issues with particular attention to the problems of ethnic groups and educational institutions. Offered Occasionally.
Exercise and Sport Science (ESS) - Graduate Courses

Courses

ESS 423/523 Cr.2
Individual and Social Factors in Physical Education
This course focuses on contemporary and historical perspectives on socio-cultural and philosophical issues that influence schooling and physical education teacher preparation, including race, gender, sexuality, ability, disability, obesity and culturally responsive teaching. Offered Fall, Spring.

ESS 430/530 Cr.3
Disability and Physical Activity Implications
The etiology and effects of select physical, sensory, intellectual and other developmental disabilities will be addressed. Content emphasizes movement implications and strategies to enhance physical activity behavior. Prerequisite: ESS 231 or RTH 326. Students in the adapted physical education teaching minor or graduate program are given priority enrollment. Offered Fall, Summer.

ESS 435/535 Cr.1
Sports for Persons with Disabilities
This course addresses sports that have either been modified based on traditional sports or developed specifically for various physical, intellectual and sensory disability groups. Content includes developmental sport models, disability sport organizations, fitness training, community advocacy and involvement, and infusion into physical education and interscholastic sports programs. Lec. 1, Lab 1. Prerequisite: ESS 231. Students in the adapted physical education teaching minor or graduate APE Program are given priority in enrollment. Offered Spring, Summer.

ESS 436/536 Cr.3
Assessment and Program Evaluation in Adapted Physical Education
This course provides an introduction to appropriate instruments and testing strategies necessary for assessing the gross motor development and health related physical fitness levels of persons with disabilities. Students learn how to administer, interpret, and use the results of motor assessments to develop individualized education program plans that are utilized in either adapted or general physical education programs for students with disabilities. Prerequisite: admission to Master of Science Physical Education Teacher Education Program. Offered Spring, Summer.

ESS 445/545 Cr.3
Facility Management in Sport
A study of planning techniques concerning facility development and maintenance for schools, athletic clubs, fitness centers, and professional sport organizations. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Fall.

ESS 449/549 Cr.2
Sports for Persons with Disabilities
This course addresses sports that have either been modified based on traditional sports or developed specifically for various physical, intellectual and sensory disability groups. Content includes developmental sport models, disability sport organizations, fitness training, community advocacy and involvement, and infusion into physical education and interscholastic sports programs. Lec. 1, Lab 1. Prerequisite: ESS 231. Students in the adapted physical education teaching minor or graduate APE Program are given priority in enrollment. Offered Spring, Summer.

ESS 460/560 Cr.1-3
Exercise Science Clinical Forum
Visiting lecturers as well as university professors will address various topics related to exercise science. Repeatable for credit. Offered Occasionally.

ESS 480/680 Cr.2
Injury Prevention, Management and Rehabilitation
Designed to assist the student in refinement of skills in prevention, management and rehabilitation of injuries occurring in a high activity environment. Special attention will be given to injury recognition and common injuries. Basic rehabilitation protocols will be reviewed in addition to conditions for referral. Prerequisite: teaching and/or coaching experience. Offered Occasionally.

ESS 540 Cr.3
Advanced Sport Nutrition
This course is designed to provide the student with a working knowledge of advanced topics as they relate to the field of sport nutrition. Such topics will include nutritional biochemistry, ergogenic aids, nutritional strategies for strength/power athletes, endurance athletes and altering body composition. Students will also learn how to assess an individual's dietary intake and utilize technology to determine energy needs of athletes. Prerequisite: ESS 302, ESS 323. Offered Summer, Winter.

ESS 445/545 Cr.3
Facility Management in Sport
A study of planning techniques concerning facility development and maintenance for schools, athletic clubs, fitness centers, and professional sport organizations. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Fall.

ESS 449/549 Cr.2
Sports for Persons with Disabilities
This course addresses sports that have either been modified based on traditional sports or developed specifically for various physical, intellectual and sensory disability groups. Content includes developmental sport models, disability sport organizations, fitness training, community advocacy and involvement, and infusion into physical education and interscholastic sports programs. Lec. 1, Lab 1. Prerequisite: ESS 231. Students in the adapted physical education teaching minor or graduate APE Program are given priority in enrollment. Offered Spring, Summer.

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ESS 480/680 Cr.2
Injury Prevention, Management and Rehabilitation
Designed to assist the student in refinement of skills in prevention, management and rehabilitation of injuries occurring in a high activity environment. Special attention will be given to injury recognition and common injuries. Basic rehabilitation protocols will be reviewed in addition to conditions for referral. Prerequisite: teaching and/or coaching experience. Offered Occasionally.

ESS 702 Cr.3
Sport Administration
Principles of management theory and practice in the sport industry, including management functions, personnel, fiscal, program, and facility management of athletic/sport administration enterprise. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Fall.

ESS 710 Cr.3
Event Management
This course is designed to assist students in understanding the concepts related to planning, promoting, managing, and evaluating an event from inception to post-event analysis and to understand some of the specialized terminology used in the business. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Fall.
ESS 711 Cr.3

**Sponsorship in Sport**
The course provides a detailed examination of the relationship between sport and corporate sponsorship, and strategies for selling sponsorship packages. Topics covered will include the theoretical rationale for sponsorship, strategic communication through sponsorship, determining the value of a sponsorship, evaluation of sponsorship activities, and techniques used to sell sponsorship packages. Perspectives from the event holder (i.e., property) offering a sponsorship and from the organization functioning as the sponsor will be considered. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Summer.

ESS 725 Cr.2

**Diversity in the Physical Activity Setting**
The class will address racial, ethnic, sexual orientation, and disability issues for which physical education teachers should have an awareness. The purpose of the course will be to sensitize the students to the fact that diversity is part of life in America and that a teacher needs to recognize that differences need to be understood and reflected upon so that the teacher can help all students have a positive educational experience. Pedagogical methods for integrating students will be addressed, such as inclusion techniques for students with a disability, culturally diverse games, and appropriate behavior management techniques. Offered Spring.

ESS 727 Cr.2

**Planning for Effective Instruction in Physical Education**
This course focuses on the planning and teaching skills needed to be an effective/model physical educator. Research related to teaching and learning styles will be studied and instructional materials will be developed. A variety of instructional units and lessons which incorporate knowledge-based objectives and developmentally appropriate learning experiences will be designed and implemented. Prerequisite: ESS 759. Offered Spring.

ESS 728 Cr.2-3

**Effective Middle School Physical Education**
Course designed to provide an overview of middle school physical education. Emphasis will be on current recommended standards and assessment procedures. Creating a positive learning environment, co-curricular activities, personal philosophy and program content will also be examined. Students may choose to do an independent application project utilizing material covered in the course. Repeatable for credit - maximum three. Offered Occasionally.

ESS 730 Cr.3

**Research Methods for Exercise and Sport Science**
This course presents the purposes, methods, and techniques for the development, conduct, and interpretation of research. Emphasis is on understanding the process and product of current research. Each student is guided in the creation of a graduate-level research proposal and other components of the research process. Offered Fall, Spring, Summer.

ESS 732 Cr.3

**Advanced Athletic Activity Injury Management**
This course provides students with clinically applicable knowledge and skills in the assessment and treatment of medical pathologies relative to athletic activity in a health care facility setting. Rotations will be completed in primary care, orthopedics, physical medicine, or emergency medicine. Lect. 1. Lab. 6. Prerequisite: open to students certified by the NATABOC (or eligible) or who possess an equivalent athletic training credential. Offered Occasionally.

ESS 733 Cr.3

**Advanced Athletic Training Teaching**
This course provides the student with experiences relevant to athletic training education. Students will work directly with athletic training faculty to plan courses, develop syllabi, plan and deliver selected course content, and evaluate students in UW-L’s undergraduate athletic training program. Lect. 1. Lab. 6. Open to students certified by the NATABOC (or eligible) or who possess an equivalent athletic training credential. Prerequisite: ESS 734. Offered Occasionally.

ESS 734 Cr.3

**Effective Instruction in Athletic Training**
This course is designed to expose students to a wide variety of teaching methodologies that can be incorporated into athletic training courses. Additionally, relevant topics pertaining to both didactic and clinical education (e.g., standards for appropriate student supervision) in the area of athletic training will be covered. Prerequisite: open to students certified by the NATABOC (or eligible) or who possess an equivalent athletic training credential. Offered Occasionally.

ESS 735 Cr.3

**Statistics for Exercise and Sport Science**
An introductory course in statistics with the essential purpose of providing students with the tools to conduct statistical analyses as well as to interpret and evaluate the results of research. Offered Fall, Spring, Summer.

ESS 736 Cr.3

**Critical Analysis Project: Adapted Physical Education**
This is a required course in the adapted physical education graduate emphasis. The student proposes, develops, and analyzes an issue or problem in the adapted physical education profession. Upon approval, the student will conduct an in-depth analysis of the issue/problem. The end product will be a written document describing the student’s analysis and an oral presentation with the analysis committee. Prerequisite: ESS 530; ESS 536; ESS 537; EFN 730. Offered Fall, Spring, Summer.

ESS 737 Cr.2

**Curriculum Design in Physical Education**
This course will provide an in-depth review of a variety of traditional and contemporary curricular models for physical education. Topics relating to philosophical perspectives/belief systems inherent in various types of programs will be included. Additional emphasis will also be given to designing and producing an elementary, junior/middle, or high school curriculum for the future and the evaluation model which could be used to assess its effectiveness. Offered Fall.

ESS 738 Cr.3

**Financial Management for Sport Programs**
Principles of sport finance and economics including budget development and management, fund-raising, and economic impact of sport, financial theories and practical application of sport income and expenditures in current society. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Summer.

ESS 739 Cr.3

**Sport Law**
A comprehensive examination of the court and legal system as it relates to the sport enterprise. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Spring.
ESS 740 Cr.3
Reading/Writing in Athletic Training
A survey and analysis of current and classical literature pertaining to the area of athletic training. Readings will include both assigned and student selected materials for the purpose of student presentation to and discussion with the assigned instructor. The class also includes a comprehensive writing assignment, which will culminate in the submission of a manuscript to be reviewed for publication in a scientific journal. Prerequisite: open to students certified by the NATABOC (or eligible) or who possess an equivalent athletic training credential. Offered Occasionally.

ESS 741 Cr.3
Concepts of Teaching in Elementary School P-E
An in-depth examination of teaching methods appropriate for use in elementary school physical education. Course work will involve an examination of research findings, laboratory experience and extensive reading and discussion in related areas. Offered Occasionally.

ESS 744 Cr.3
Lab Techniques in Clinical Exercise Physiology
Students learn techniques for health screening, evaluation of exercise tolerance (with and without gas exchange), body composition analysis, and spirometry. The focus is on hands-on skill development and supports theoretical concepts addressed in other parts of the curriculum. Lect. 2, Lab. 1. Prerequisite: ESS 770 or concurrent registration. Offered Fall.

ESS 745 Cr.3
Pedagogy of Outdoor Physical Education
This course covers the history, philosophy, and principles of outdoor physical education, and its interdisciplinary nature and aim of employing the outdoors to contribute to student's physical and educational growth. The pedagogical focus provides teaching strategies, instructional materials, and procedures used in the field, as well as information on existing programs. Current research and national trends and issues will be emphasized. Offered Spring.

ESS 746 Cr.3
Physical Education Pedagogy Graduate Project
Culminating synthesis project to provide students with a supervised opportunity for in-depth study of a physical education issue, trend, or problem. Completion of the project should demonstrate advanced professional competence in program development, implementation, and evaluation. The project will be completed with graduate faculty approval and supervision. Prerequisite: EFN 736; completion of six hours of the required pedagogy core; candidacy approval; unconditional acceptance into the pedagogy track of the MS in ESS teaching program. Offered Occasionally.

ESS 747 Cr.3
Advanced Principles of Athletic Performance Enhancement
This course provides advanced concepts of training and conditioning for both athletes and other populations. It includes applicable and practical information for developing conditioning programs for speed, strength, endurance, and power. This course is ideal for future professionals such as athletic coaches, strength and conditioning coaches, personal trainers and those planning to become strength and conditioning professionals. Prerequisite: ESS 767. Offered Summer.

ESS 748 Cr.3
Sports Performance Practicum
This practicum course is designed to give the graduate students interested in strength and conditioning of athletes practical experience in two primary areas: 1) the development and delivery of sport-specific strength and conditioning training programs to improve athletic performance; and 2) measurement of performance related to strength and conditioning of athletes. Offered Fall.

ESS 749 Cr.3
Psychological Aspects of Sports
Examines the developmental, personal, social and psychological aspects of sport performance. Special attention is given to psychological factors such as activation, aggression, anxiety, affiliation, motivation, personality, and performance variables. Prerequisite: admission to an ESS MS Program. Offered Spring.

ESS 750 Cr.3
Mechanics and Analysis of Movement
This course is designed to provide a mechanical understanding of the human body in motion. Mechanical principles, laws, and equations will be studied and applied to human movement in exercise and sport activities. Quantitative analysis techniques will be introduced and biomechanical assessment of various exercises and sports will be performed. Prerequisite: ESS 303 or equivalent; MTH 151 or equivalent. Offered Spring.

ESS 751 Cr.3
Advanced Biomechanics
This course is designed to teach proficiency in quantifying and analyzing human movement activities. Advanced techniques in videography and force plate analysis will be covered. Utilization of biomechanical techniques for research activities will be a primary focus. Prerequisite: ESS 750. Concurrent enrollment in ESS 761 recommended. Offered Occasionally.

ESS 752 Cr.3
Assessment of Physical Education and Athletics
This course is designed for practitioners in the field of physical education and athletics. Students will learn to utilize assessment strategies and data to improve instruction and program effectiveness. Emphasis on the use of assessment data to document effectiveness and increase accountability of physical education and athletic programs. Prerequisite: ESS 321 or equivalent. Offered Spring.

ESS 753 Cr.2-3
Problems in Physical Education
Provides an opportunity to investigate and to attempt solution of a professional problem in one of the following areas: 1) athletics; 2) recreation; 3) health education; 4) dance; 5) physical education. Designed primarily for experienced teachers. Repeatable for credit - can repeat the course once. Offered Occasionally.

ESS 754 Cr.3
Sport Marketing
Principles of marketing theory and practice in the sport industry to include public relations, promotions, special events, fund raising, and media. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Spring.

ESS 755 Cr.1-3
Practical Experience in Sport Administration
This course will provide the student with hands-on, practical management experience prior to the ESS 788 Internship in Sport Administration. Experiences can include, but are not limited to, games and event management, personnel management, marketing and promotions, budget maintenance and fund raising. The student will be required to do 65 hours of work per credit under the direct supervision of the university personnel or a practitioner in the field. A written proposal describing the project and practicum outcomes must be approved by the supervisor and program director prior to the start of the experience. Students may not receive academic credit for experiences that are considered part of their normal professional workload or graduate assistantship responsibilities. Repeatable for credit – maximum six. Offered Fall, Spring.
ESS 759 Cr.3  
**Analysis and Supervision of Physical Education**  
Designed to present current research related to effective teaching in physical education, provide quantitative and qualitative techniques to gather information about and analyze teaching, and how to apply the principles of clinical supervision in physical education for the improvement of instruction. Additional emphasis will also be given to the personal assessment of teaching and the need for and characteristics of effective staff development activities. Offered Fall.

ESS 760 Cr.3  
**Issues in Sport Management**  
This course is designed to provide the learner the opportunity to study specific problems in the field of sport management, and to analyze the constantly changing areas of sport management through lectures, readings, visual aids, discussion, and student investigation. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Fall.

ESS 761 Cr.2  
**Lab Techniques in Human Performance-Biomechanics**  
This course provides a variety of hands-on experiences in biomechanical testing procedures. Students will be introduced to a variety of testing procedures utilized in collecting kinematic, and neuromuscular data. Special techniques of data processing will also be discussed. Prerequisite: ESS 750 or concurrent enrollment. Offered Occasionally.

ESS 762 Cr.2-3  
**Lab Techniques in Human Performance-Exercise Physiology**  
Development of skills and experience (in the area of exercise physiology) necessary for data collection in laboratory and field settings, special techniques of data acquisition, processing, analyzing and interpretation of results using available experimental equipment and methods. Repeatable for credit - maximum three. Prerequisite: ESS 767 or ESS 770. Offered Spring.

ESS 763 Cr.2  
**Lab Techniques/Human Performance-Motor Learning**  
Development of skills and experience (in the area of motor learning) necessary for data collection in laboratory and field settings, special techniques of data acquisition, processing, analyzing and interpretation of results using available experimental equipment and methods. Prerequisite: ESS 768 or concurrent registration; graduate student in ESS MS Program. Offered Spring.

ESS 764 Cr.2-3  
**Adventure Education for Physical Educators**  
This course focuses on methods, safety, research, and management of adventure education programs and initiative games in the physical education curriculum. Implementation of adventure activities with different age groups and diverse populations in physical education programs will be emphasized, as well as the principles and challenges of teaching adventure education. The use of unique environments such as ropes courses and climbing walls will be included. Repeatable for credit - maximum three. Offered Fall.

ESS 765 Cr.3  
**Sport and Society**  
An examination of American culture and the role played in it by sports. Areas which will come under scrutiny are: the family, labor, industry, schools, churches, communication media, population mobility, government, race relations, foreign relations, war activities, and democracy as they are related to sports in America. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Spring.

ESS 766 Cr.3  
**Applied Physiology of Endurance Performance**  
Designed to teach the physiological responses and adaptations to training and performance of endurance sports. Emphasis is on the metabolic, cardiovascular, and respiratory systems. Environmental concerns will also be addressed. Prerequisite: ESS 302 or equivalent. Offered Fall.

ESS 767 Cr.3  
**The Psychomotor Basis of Skill Performance**  
Integration of thought processes with the physical organism to produce highly skilled acts. Offered Fall.

ESS 770 Cr.3  
**Application of Muscle Physiology to Strength/Power Training**  
This course is designed to apply the training for strength and power muscular performance to teach skeletal muscle physiology in a classroom setting. The ability to regulate force and power production and muscle metabolism during strength power training will be studied. Application to common training practices including strength training, plyometrics, and sprint training and adaptations to such training highlight this course. Prerequisite: undergraduate human anatomy and physiology course; exercise physiology course; ESS 767 or ESS 770 recommended. Offered Spring.

ESS 771 Cr.2-3  
**Current Issues in Physical Education**  
Identification of current trends and issues in physical education. Opportunities for the student to pursue professional issues of current interests will be encouraged. Repeatable for credit with program director permission - maximum six. Offered Summer.

ESS 774 Cr.2  
**Clinical in Phase I and Phase II Cardiac Rehabilitation**  
This course is designed to provide hands-on experiences in Phases I and II cardiac rehabilitation, pulmonary rehabilitation and cardiac related co-morbidities in local hospitals. Additional activities will include two regional field trips to observe existing programs in progress. Prerequisite: open only to students in the ESS Clinical Exercise Physiology MS Program. Offered Fall, Spring.

ESS 776 Cr.3  
**Clinical in Adult Fitness/Phase III Cardiac Rehabilitation**  
This course is designed to provide students with hands-on experiences in exercise prescription, exercise leadership, and patient counseling in health and fitness programs for apparently healthy adults and maintenance (Phase III) cardiac rehabilitation participants. Repeatable for credit - maximum nine. Offered Fall, Spring, Summer.

ESS 777 Cr.2  
**Seminar in Adventure/Outdoor Physical Education**  
In-depth examination of educational research in adventure education. Emphasis will be placed on using research to solve current problems, examining trends and contemporary issues in K-12 adventure programs. Reviewing research and using findings to solve problems in the public school setting will be stressed. Offered Fall.
ESS 778 Cr.2
Practicum in Adventure Education
This practicum will provide students with experiences in field based (authentic) leadership and teaching situations in a field setting with public school programs. Emphasis will be on planning and developing outdoor physical education programs in conjunction with public/private K-12 programs. Offered Spring.

ESS 779 Cr.1-3
Readings in Special Physical Education
An in-depth analysis of the literature in a chosen topic pertaining to adapted physical education. Readings will include both assigned and student selected materials. In addition, there will be periodic discussions with the instructor and an agreed upon terminal assignment. Repeatable for credit - maximum three. Prerequisite: ESS 430/530, ESS 436/536, and ESS 792. Offered Fall, Spring.

ESS 780 Cr.2
Philosophy and Organization of Preventive and Rehabilitative Programs
This course focuses on the historical background, documented benefits, and organizational issues in both conventional and innovative approaches to prevention and rehabilitation programs. The course will ultimately address both the why and how of clinical exercise and risk factor reduction programs. Offered Spring.

ESS 782 Cr.3
Electrocardiography
Course is designed to instruct the student in the basics of the normal, the abnormal resting and the exercise electrocardiogram. Involves lecture experiences and intensive investigation of documented ECG-GXT case studies. Offered Summer.

ESS 783 Cr.3
Graded Exercise Testing and Exercise Prescription
This course is designed to provide students with the theoretical and practical knowledge necessary to conduct and interpret the wide variety of diagnostic exercise tests commonly used in clinical practice. Additionally, students will be able to formulate, based on test results, appropriate exercise prescriptions for healthy adults, as well as patients with a wide variety of chronic diseases. A major goal of the course is to provide students with the knowledge and practical skills required to take the American College of Sports Medicine Registered Clinical Exercise Physiologist certification examination. Prerequisite: ESS 782. Offered Spring.

ESS 784 Cr.3
Advanced Cardiovascular Physiology
Designed to acquaint the student with advanced principles and concepts regarding cardiovascular physiology. The course examines in detail the various parameters of the cardiovascular system, the implication of disease and structural abnormalities to these parameters, and the relationship of resting cardiovascular data to exercise data. Lect. 2, Lab. 2. Offered Spring.

ESS 785 Cr.5
Internship: Clinical Exercise Physiology
Designed to provide the student with practical work experience in an adult fitness (YMCA/corporate environment) or clinical setting. The internship is three months in duration and all course work and thesis requirements must be completed prior to the beginning of the internship. Prerequisite: open only to students in the ESS Clinical Exercise Physiology MS Program. Offered Fall, Spring, Summer.

ESS 786 Cr.1
Advanced Cardiac Life Support (ACLS)
An in-depth study and the development of understanding and skills of Advanced Cardiac Life Support (ACLS). Successful completion of the course and passing the ACLS exam results in the student being ACLS certified. Prerequisite: ESS 782. Offered Fall.

ESS 787 Cr.1-3
Clinical Internship in Adapted Physical Education
Students complete clinical experiences in adapted physical education settings. Students are required to complete three different clinicals. Each experience is one semester and for one credit hour. Clinical experiences may include infant (0-2 years) stimulation programs, preschool or early childhood programs, motor development and physical fitness programs for persons with disabilities, and school-based adapted physical education programs. Three credits of internship are required in the adapted physical education emphasis of the graduate Physical Education Teacher Education Program. Repeatable for credit - maximum three. Prerequisite: admission to ESS Physical Education Teacher Education MS Program. Offered Fall, Spring, Summer.

ESS 788 Cr.6
Internship in Sport Administration
Designed to provide students with an intensive supervised sport administration work experience. The internship must be at least three consecutive months (40 hours per week). Only approved sites can be used for internships. Prerequisite: open only to students in ESS Sport Administration MS Program who have completed all required course work for the degree. Offered Fall, Spring.

ESS 789 Cr.3
Internship: Human Performance
A practical learning experience designed to apply the competencies gained within the human performance emphasis in a community, institutional or industrial setting. Each intern will earn three elective credits for a mutually agreed upon time period, consistent with the policies of the university and the internship site. All other course work shall be completed prior to the internship experience. Repeatable for credit - maximum six. Offered Fall, Spring, Summer.

ESS 790 Cr.2
Supervision and Administration of Adapted Physical Education
Designed to provide the student with the skills and knowledge to conduct and/or administer staff planning, program critiques, staff management, program coordination, IEP material least restrictive placement, and in-service training for a special (adapted) physical education program. Offered Occasionally.

ESS 792 Cr.1-3
Seminar in Adapted Physical Education
The course is designed to provide in-depth analysis of topics and issues in adapted physical education. During each semester, selected topics will be highlighted for analysis. Students will be provided with guest lecturers from professionals in the selected areas and will engage in information sharing and critical analysis of issues based upon outside readings. Repeatable for credit - maximum three. Offered Summer.

ESS 793 Cr.2
Motor Development Issues in Adapted Physical Education
Growth and development issues concerning motor skill acquisition for adapted physical educators. Examination of embryology, normal growth expectations, developmental sequences of fundamental skills, various motor development concepts, Dynamical Systems Model, and abnormal motor development. Offered Occasionally.

ESS 794 Cr.1-3
Readings in Sports Psychology
A survey and analysis of current and classical literature pertaining to the area of sport psychology in human performance. Readings will include both assigned and student selected materials for the purpose of student presentation to and discussion with the assigned instructor. Prerequisite: ESS 749; graduate student in ESS MS Program. Offered Fall, Spring.
ESS 795 Cr.1-3
**Independent Study**
Advanced work not covered in regular courses. Repeatable for credit - maximum six. Consent of advisor. Consent of department. Offered Fall, Spring, Summer.

ESS 796 Cr.1-3
**Readings in Biomechanics**
A survey and analysis of current and classic literature pertaining to the area of biomechanics in human performance. Readings will include both assigned and student selected materials for the purpose of student presentation to and discussion with the assigned instructor. Prerequisite: ESS 750 and ESS 751; graduate student in ESS MS Program. Offered Occasionally.

ESS 797 Cr.1-3
**Readings in Exercise Physiology**
A survey and analysis of current and classical literature pertaining to the area of exercise physiology in human performance. Readings will include both assigned and student selected materials for the purpose of student presentation to and discussion with the assigned instructor. Prerequisite: ESS 767 or ESS 770. Offered Fall, Spring.

ESS 798 Cr.1-3
**Readings in Motor Learning**
A survey and analysis of current and classical literature pertaining to the area of motor learning in human performance. Readings will include both assigned and student selected materials for the purpose of student presentation to and discussion with the assigned instructor. Prerequisite: ESS 768; graduate student in ESS MS Program. Offered Fall, Spring.

ESS 799 Cr.1-6
**Research: Master's Thesis**
An independent research project is to be selected and executed under the direction of a staff member by those students electing to write a thesis. The project may be in any of the areas related to physical education, such as health, recreation, or athletics. For students following Plan A - Thesis option. Repeatable for credit - maximum 10. Offered Fall, Spring, Summer.

FIN 426/526 Cr.3
**Real Estate Finance**
The contractual nature and legal implications of the instruments used in financing real estate. The structure and operation of the primary and secondary mortgage markets; instruments, techniques, and strategies in financing real property investments. Prerequisite: FIN 456/556. Offered Occasionally.

FIN 430/530 Cr.3
**Financial Planning and Strategy**
Long-term planning as it relates to special problems of acquiring funds and selecting and deploying assets. Emphasis is placed on forecasting long-term funds requirements, and the suitability of specific financing vehicles for particular needs. Prerequisite: FIN 370. Offered Occasionally.

FIN 440/540 Cr.3
**Multinational Financial Management**
The international financial system and the application of basic principles of business finance in an international context. Topics include: the finance function in the multinational firm, foreign exchange markets, cost of capital, and capital expenditure analysis in the multinational firm. International accounting and reporting procedures are reviewed. Prerequisite: FIN 355. Offered Spring.

FIN 447/547 Cr.3
**Advanced Financial Analysis**
Offers the students the opportunity for advanced study of topics related to (1) business ethics and professional standards, (2) investment tools, (3) asset valuation, and (4) portfolio management. Students will learn how to effectively analyze financial statements, apply statistical models, and evaluate both international and derivative securities. Completion of this course will also assist students in preparing for the Level I exam of the Chartered Financial Analyst (CFA) program. Departmental option for pass/fail or letter grade. Prerequisite: FIN 355. Consent of department. Offered Spring.

FIN 456/556 Cr.3
**Real Estate Principles**
Survey of real estate principles and practices, the economic environment and valuation. Topics include: nature of real property; organization and structure of real estate markets; alternative land uses; financing and valuation of real estate; and the legal environment. Prerequisite: FIN 355. Offered Spring.

FIN 465/565 Cr.3
**Health Care Financing**
A broad micro and macro treatment of health care financing from the insurer, consumer and institutional viewpoints. Topics include: reimbursement mechanisms, planning, capital allocation and organizational aspects of health care financing function. Prerequisite: FIN 355. Offered Occasionally.

FIN 474/574 Cr.3
**Equity Valuation**
This course presents the financial analysis industry standard models for determining the value of equity securities. Emphasis is placed on the calculations of cost of capital and equity value and the sensitivity analysis of the results. Students will be required to create and present a sell-side analyst report. Prerequisite: BUS 730. Offered Occasionally.

FIN 475/575 Cr.3
**Investment Analysis and Portfolio Management**
An in-depth investigation of modern concepts of asset ownership, risks and the reduction of risk through portfolio construction. An efficient markets approach to contemporary capital market and portfolio theory with applications to investment management. Prerequisite: FIN 380. Offered Fall.

FIN 477/577 Cr.3
**International Investments**
The international political, economic and legal environment in which investment decisions are made. An evaluation of security valuation theory and practice in the context of international money and capital markets. Topics include the motives for international investment, exchange risk, foreign money and capital market instruments and their markets, and construction and management of portfolios. Prerequisite: FIN 380. Offered Occasionally.
FIN 480/580 Cr.3
Financial Management and Control
Focuses on the roles and responsibilities of the controller and treasurer in today's business and economic environment. From a controller's/treasurer's perspective, the course content includes: functions, organization, characteristics, standards of ethical conduct, financial reporting, internal controls/operations analysis, cost management and professional development. Prerequisite: BUS 730, BUS 731. Offered Occasionally.

FIN 701 Cr.2
Foundations of Managerial Finance
Introduction to managerial finance with an emphasis on effective decision-making. Topics include risk and return, present value, valuation, cost of capital, capital budgeting, leverage and capital structure, forecasting, financial markets and the environment, and working capital. This course is an internet MBA foundation course. Offered Occasionally.

FIN 711 Cr.3
Money and Capital Markets
Analysis of the economic forces at work in the money and capital markets. Influence of financial markets on cost of capital and market interest rates. Analysis of markets for debt and equities, private and public offerings. Role of the central bank in financial markets and forces contributing to stability and instability. (Not open for credit to those who have had FIN 390.) Offered Occasionally.

FIN 721 Cr.3
Investment Analysis and Management
Security valuation theory and practice, including the application of random walk models and the theory of portfolio selection as they relate to investment decisions. Model building and testing to be emphasized. (Not open for credit to students who have completed FIN 475/575.) Offered Occasionally.

FIN 731 Cr.3
Risk Management and Insurance
The process of conserving the earning power and assets of a firm by minimizing the financial impact of accidental loss. Emphasis is on the risk management process (identification of exposures, measurement of frequency and severity, selection of treatments) for property and liability exposures as well as employee benefit management. Offered Occasionally.

FIN 797 Cr.1-3
Independent Study
Individual reading or research under the guidance of a staff member. Registration with the consent of the student's regular adviser, the instructor, and the department chairperson. Approval form available in the office of the Dean of the College of Business Administration. Form must be completed prior to registration. Repeatable for credit - maximum three. Prerequisite: admission to the MBA Program with a minimum 3.50 cum GPA; completed a minimum of 21 credits in the MBA Program. Maximum of three credits of independent study in any combination of ACC 797, ECO 797, FIN 797, MGT 797 and MKT 797. Consent of instructor. Offered Occasionally.

French (FRE) - Graduate Courses

FRE 498/598 Cr.1-3
Independent Study
Fieldwork, research, individual projects in a specific area of French language, civilization or literature. Repeatable for credit - maximum six. Prerequisite: two advanced courses. Offered Occasionally.

FRE 499/599 Cr.1-3
Independent Study
Fieldwork, research, individual projects in a specific area of French language, civilization or literature. Repeatable for credit - maximum six. Prerequisite: two semesters of advanced courses. Offered Occasionally.

Geography (GEO) - Graduate Courses

ESC/GEO 422/522 Cr.3
Meteorology and Weather Forecasting
Various principles and laws which govern the behavior of the atmosphere are investigated. Laws of gases and radiation, energy exchange between the earth and the atmosphere, laws of motion, various forces governing atmospheric motion, atmospheric moisture and psychrometry, condensation, precipitable water and precipitation, atmospheric stability/instability, thermodynamic characteristics of the atmosphere, vorticity, and synoptic meteorology are discussed. Surface and upper-air charts, synoptic patterns, thermodynamic charts, radar and satellite images, and weather patterns are analyzed for weather forecasting. Prerequisite: ESC 101 or equivalent. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Spring.

ESC/GEO 425/525 Cr.3
Biogeography
A systematic analysis of the geographic distribution of organisms from historical, ecological and regional perspectives. Emphasis is placed on the principles and the methods of biogeography. Special reference is made to biogeographic regions, the distribution of organisms in space and time, and ecological biogeography. Prerequisite: ESC 221. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Alternate Years.

ESC/GEO 426/526 Cr.4
Soil Morphology and Genesis
A comprehensive study of soils around the world and the factors and processes that drive their formation and dynamic evolution. Emphasis is placed on soil morphology, pedogenesis, and biogeochemical influences within the soil environment. A one-credit lab section is devoted to the hands-on exploration and study of soils through laboratory and field exercises. Prerequisite: ESC 221 or ESC 222. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Occasionally.

ESC/GEO 430/530 Cr.3
Fluvial Geomorphology
A systematic study of the interactions between flowing water and surface landforms. Emphasis is placed on watershed and stream development, sediment transport and storage, flow frequency analysis, and applications of fluvial principles to river management and stream restoration. Class activities will include field exercises in the La Crosse region, mathematical analysis of hydrologic variables, and spatial analysis with Geographic Information Systems. Prerequisite: ESC 221 or ESC 222. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Spring - Odd Numbered Years.

ESC/GEO 440/540 Cr.3
Geographic Interpretation of Aerial Photographs
Systematic applications of aerial photographs in the interpretation and analysis of geographic problems. Emphasis is placed on digital photograph interpretation within a geographic information system. Topics include urban and rural land use, natural resource, and environmental assessment. Lect.2, Lab 2. Prerequisite: ESC/GEO 385. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Occasionally.
ESC/GEO 445/545 Cr.3
**Advanced Remote Sensing**
Advanced techniques of digital satellite and airborne image analysis and processing, emphasizing theory and applications in natural resource, land use and environmental assessment. Includes practical approaches to integrating imagery with geographic information systems area for spatial analyses and decision making. Data acquisition, integrity, manipulation, formatting, storage, and retrieval are also examined. Prerequisite: ESC/GEO 345. (Cross-listed with ESC/GEO: may only earn credit in one department.) Offered Spring.

ESC/GEO 455/555 Cr.3
**Web Mapping**
In this course, students will learn how to produce and design interactive Web maps for communication. Web maps take many forms and they are continually changing. Thus, the objective of this course is to do two things: (1) develop proficiency in the scripting languages and tools most frequently used to design and create these maps; and (2) teach the theory and concepts underlying good Web map design so that as the technologies change in the future students will still be able to design effective Web maps. At the end of this course, students will be able to design a Web map from scratch. Lect. 2, Lab. 2. Prerequisite: ESC/GEO 250, ESC/GEO 355; junior standing. (Cross-listed with ESC/GEO, may only earn credit in one department.) Offered Spring.

ESC/GEO 460/560 Cr.3
**Environmental Hazards and Land Use Planning**
Environmental processes are investigated in light of the hazards they might pose for development and how they may be avoided or mitigated by proper land use planning. Prerequisite: ESC 221 or ESC 222. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Occasionally.

ESC/GEO 470/570 Cr.1-3
**Special Topics in Geography/Earth Science**
Specifically selected topics or skills which may be designed for the interest of special groups will be offered with formalized instruction and methodology appropriate to geography and/or earth science. May be counted as an elective in the geography major or earth science minor at the discretion of the geography/earth science department. Prerequisite may be required at the discretion of the department. Repeatable for credit - maximum six. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Occasionally.

ESC/GEO 476/576 Cr.1-3
**Geography/Earth Science Topics for Teachers**
Selected topics in geography and/or earth science pertinent to applications in the teachers' classrooms. Courses are designed to meet the needs of teachers so that they may implement the course material into their classroom teaching. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Occasionally.

GEO 485/585 Cr.3
**Advanced Geographic Information Science**
Advanced theories in geographic information systems database structures, advanced applications, database transfers, database management, use of census data, spatial analysis, and decision-making. Emphasis on ARCGIS and its applications. Integration of GIS with remote sensing and GPS. Lect. 2, Lab. 2. Prerequisite: MTH 145; ESC/GEO 385; junior standing. Offered Spring.

ESC/GEO 490/590 Cr.2-3
**Independent Study**
Individual readings and investigation of selected problems in geography. Open to senior majors and minors with a "B" (3.00) average in geography. Registration with consent of regular advisor, instructor, department chairperson, and the dean of the college in which the student is enrolled. Repeatable for credit - maximum six. Maximum three credits applicable to major. Maximum three credits from any instructor. (Cross-listed with ESC/GEO; may only earn credit in one department.) Consent of instructor. Offered Fall, Winter, Spring, Summer.

ESC/GEO 495/595 Cr.1-3
**Seminar in Geography/Earth Science**
Investigation into various topics in geography or the earth sciences. Varying topics will be offered at intervals with a specific title assigned to each. Repeatable for credit - maximum six. Variable topics - check semester timetables. Prerequisite: two semesters of geography and/or earth science. Additional prerequisites may be required by the instructor. (Cross-listed with ESC/GEO; may only earn credit in one department.) Offered Occasionally.

GES 734 Cr.1-3
**Field Studies of World Regions**
Geographic study of a selected region of the world with emphasis on guided field study and individual research problems. Library and field-work and geographic techniques of research leading to a better understanding of problems concerning another region of the world. Repeatable for credit - maximum three. Offered Occasionally.

ESC/GEO 790 Cr.1-3
**Directed Study**
Individual readings and investigations of selected topics in geography and earth science. Repeatable for credit – maximum three. Prerequisite: permission of the instructor and the department chair. (Cross-listed with ESC/GEO; may only earn credit in one department.)
Courses

GRC 798 Cr.0
Interrupted Registration
This registration is required for students who failed to meet the University's Graduate Research and Terminal Project Completion Policy (did not register for GRC 799 immediately upon completing all degree requirements in an approved program of study except for thesis, comprehensive examination, seminar paper, or other culminating project). In order to comply with the policy, students must register for GRC 799 for zero credits and pay a special course fee equal to the cost of three resident graduate credits. Prerequisite: approval by graduate program director and reentry to former academic program; approved reentry to the university. Offered Fall, Spring, Summer.

GRC 799 Cr.0
Continuous Registration
Once having completed all degree requirements in an approved program of study except for the thesis, seminar paper, comprehensive examination, or other culminating graduate projects, students must maintain continuous term-to-term enrollment (excluding winter intersession). Students meet this requirement by registering for GRC 799 for zero credits and paying a special course fee equal to the cost of one resident graduate credit. 1) Students who require only one term after their regular coursework to complete their thesis or culminating project need to register for only for one (1) term of GRC 799. 2) Students who need more than one (1) term after their regular coursework to complete their thesis or culminating project need to register for two and only two (2) continuous terms of GRC 799. 3) Students, if they fail to register for GRC 799 in either of the two terms immediately following completion of their regular coursework, do not register for GRC 799. Instead they register for GRC 798. Students must register for GRC 799 (Fall, Spring, Summer) immediately following completion of all coursework. Students register for GRC 799 only when they are not registered for any other credits. Repeatable - maximum eight enrollments. Offered Fall, Spring, Summer.

Health Education (HED) - Graduate Courses

Courses

HED 408/508 Cr.1-2
Microcomputers Applications in Health Education
This course is designed for both school health educators and community health educators. The course will focus on current software programs available for professionals in the health field. Students will be exposed to and learn to utilize a sampling of current software available, as well as assessment techniques to evaluate these programs. Offered Occasionally.

HED 409/509 Cr.1
Stress Management and Relaxation Skills
An introduction to the detrimental effects of stress on an individual and the corresponding benefits of regular relaxation. This course will emphasize the basic skills of relaxation and will provide an experience that focuses on the practical application of these skills in one's life. Offered Fall, Spring.

HED 412/512 Cr.1-3
Women's Health Issues
This course will provide an opportunity for participants to identify major health issues confronting women today and to examine appropriate health prevention and health promotion lifestyle choices. It will explore health issues from the traditional medical model to the holistic model and provide a comprehensive overview of critical, contemporary women's health issues. Repeatable for credit - maximum three. Offered Spring.

HED 417/517 Cr.1
Understanding Child Abuse
This course will provide an opportunity for students to develop an understanding of the dynamics of child abuse as well as a practical framework from which to provide services to abused children and their families. Offered Occasionally.

HED 418/518 Cr.1
Youth Health Issues
An overview of youth health issues examining such topics as anorexia, drug abuse, suicidal tendencies, diseases, violence and emotional health problems. Effective ways of dealing with these issues in both the community and school setting will be discussed. Offered Occasionally.

HED 422/522 Cr.1
Sexual Abuse of Children
This course will provide an opportunity for participants to develop an in-depth understanding of child sexual abuse. Theoretical and research perspectives on the nature of abuse and its dynamics will be included as well as an update of available educational materials. Prerequisite: HED 417/517. Offered Occasionally.

HED 423/523 Cr.1
Sexual Health Promotion Persons with Disabilities
This course is designed to provide health care and allied health professionals and teachers with an overview of sexuality issues regarding persons with physical disabilities, chronic illnesses, and developmental disabilities. Offered Occasionally.

HED 425/525 Cr.3
Violence and Injury Prevention
Participants will review the major forces leading to violent behavior and injury in the United States and globally. Trends over time will be carefully reviewed and analyzed in order to detect risk and protective factors. Violence and injury prevention strategies will be reviewed, resulting in the development of prevention and intervention proposals using community-based programming and curriculum development strategies. Offered Fall, Spring.

HED 436/536 Cr.1
Alcohol, Health and Behavior
This course is intended to help individuals develop a more complete understanding of alcohol as a public health problem. Alcohol's impact on individuals, families, and society will be examined. Emphasis will be placed on information that will assist individuals in making intelligent decisions regarding the use of alcohol. Prerequisite: HPR 105; PSY 100 or PSY 212. Offered Occasionally.

HED 437/537 Cr.3
Theories of Health Behavior
This course is an overview of health behavior through the examination of health behavior theoretical constructs. Emphasis is on the application of behavior change theories and models to facilitate healthy behavior. Prerequisites: HED 205, CHE 240. Offered Fall.
HED 439/539 Cr.1
Teaching Stress Management and Relaxation Skills
This course examines both theory and cognitive information regarding stress and relaxation and the practical application of this information in a professional setting. The main thrust of the class is on how to develop, implement, teach and evaluate stress management and intervention programs. Prerequisite: HED 409/509. Offered Occasionally.

HED 441/541 Cr.3
Human Disease Prevention and Control
Presentations by medical experts in the recent progress in disease prevention and control. Knowledge of many disease processes and treatments will be discussed. Primarily designed for prospective health educators, to explore in-depth, selected topic areas of communicable and chronic diseases. HED 541 Prereq Offered Fall, Spring.

HED 447/547 Cr.1
Value Development for Health
This course examines both theory and cognitive information regarding decision-making and problem solving strategies for understanding of beliefs, attitudes and perception that affect health status. Experiential skill learning applicable to professional health promotion and personal well-being. Prerequisite: HPR 105; PSY 100. Offered Occasionally.

HED 472/572 Cr.3
Sexual Health Promotion
A review of current information on health and human sexuality. Emphasis is given to biological, psychosocial and educational aspects of human sexuality with special emphasis on instructional activities related to interpersonal communication, decision-making ability and clarification of values. Prerequisite: ESS 205 or BIO 313, ESS 206 or BIO 312. Offered Spring.

HED 473/573 Cr.3
Health Aspects of Aging
An exploration of the lifelong aging process and an examination of health factors affecting the elderly. Emphasis is given to the changes in a variety of health areas including, but not limited to, physical activity, nutrition, mental health, long-term care, sexuality, and death, dying and grief. The course will also include a service-learning component. Prerequisite: HED 205 and CHE 240. Offered Spring.

HED 474/574 Cr.3
Nutrition Education
Basic principles of nutrition are covered as well as current problems and topics regarding both personal and world nutrition today. Designed for the public school teacher, the community health educator, or those in related fields. Offered Spring.

HED 477/577 Cr.3
Grant-Seeking in Health, Human Services, and Educational Professions
The grant-seeking enterprise is studied and applied. Generic grant-seeking content, practices, and concepts are presented for application in most disciplines and areas of interest. Content includes locating and communicating with funding agencies, writing and reviewing grant proposals, analyzing requests for proposals (RFPs), using technology in grant-seeking, and implementing and evaluating grant funded projects. Prerequisite: HED 205; CHE 240; PH 340 or CHE 340; CHE 350. Offered Occasionally.

HED 485/585 Cr.1-3
Confrontations of Death
This course is designed to allow students to consider death both generally and on an individual basis. Various programs and experiences will be used to help individuals confront their own mortality and its relationship with the vitality of life. Offered Occasionally.

HED 486/586 Cr.1
Introduction to International Health
An introduction to the world health conditions/status; the different health care delivery systems, manpower and resources of selected countries in Asia, Europe and Africa in comparison to the United States. The course is designed as a survey of the condition of health and health care in the international setting. The roles/functions/responsibilities of the major international agencies and the governments will also be discussed as they relate to health. Repeatable for credit - maximum 3. Consent of instructor. Offered Occasionally.

HED 495/595 Cr.1-3
Independent Study in Health Education
Individualized study of areas not available in existing courses. Repeatable for credit - maximum six. Offered Fall, Winter, Spring, Summer.
HED 619 Cr.1-2
Health Curriculum Development: From Theory to Practice
This course establishes a theory base for the effective implementation of Comprehensive School Health Education (CSHE) complementing primary prevention and health promotion strategies for youth. This training experience incorporates selected curricular materials which provide the format to assess, design and implement curricular plans reflecting effective theory in CSHE. The class structure highlights experiential, interactive and integrative approaches which provide a model for effective curriculum implementation. Prerequisite: SHE 407 or commensurate course. Offered Occasionally.

HED 701 Cr.3
Contemporary Issues in Health Education
Current basic issues and problems in health education. Designed to reinforce and extend the student's knowledge of contemporary health issues as they apply to the improvement of personal, family, and community health. Offered Fall.

CI/HED 702 Cr.1-3
Health Issues and Resources for Teachers and Other School Professionals
Current health issues and available community resources will be addressed. Representatives from community agencies and the facilitating faculty will clarify the meaning of specific health issues related to the school setting along with various ways to address them through available agency resources. Repeatable for credit - maximum six. (Cross-listed with CI/HED; may only earn credit in one department.) Offered Occasionally.

HED 703 Cr.3
Foundations in Health Education
A study of scientific, social, psychological, ethical, legal, and educational foundations of health education. Professional competencies and practice settings will be reviewed. Applications of health concepts and effective educational strategies will increase the competencies of health education planning and program implementation. Offered Fall.

HED 706 Cr.3-6
Research Tools and Processes
The design, analysis, and interpretation of quantitative and qualitative data relative to health education, health promotion, public health, medicine, and epidemiology are covered. Attention is given to assisting students in being critical consumers of the research literature as well as designing their own studies. Prerequisite: CHE 350 or equivalent. Offered Fall, Spring.

HED 709 Cr.3
Helping Children and Youth Understand Human Sexuality
Teaching sexuality education in children and youth requires the understanding of specific topics, awareness and practice of ethical and legal practices, and development of specific sensitivity skills for delivering effective sexuality education programs. In addition, educators, parents, counselors, etc., need to feel comfortable discussing the variety of sexuality topics while also having a high level of self-efficacy for the subject’s delivery. This course supports these principles and provides an overview of reliable resources for children, youth, and adults. In addition, the National Teacher Preparation Standards for Sexuality Education were used for the creation of this course, in which the National Sexuality Education Standards are used as a guideline for instruction to children and youth. Offered Fall, Spring, Summer.

HED 710 Cr.1
Risk Reduction for Adult Fitness and Cardiac Rehabilitation
A study of health risk reduction strategies for adult fitness and cardiac rehabilitation program participants. Provides an overview of health promotion concepts for professional application in health care and worksite settings. Offered Occasionally.

HED 712 Cr.1-3
Selected Health Topics for Elem School Teachers
An in-depth study of research and trends in selected health topics. A variety of instructional techniques and resources will be used to focus upon the current theories suggested for the most effective coverage of these topics in the elementary school. Delimited to elementary teachers only. Offered Occasionally.

HED 725 Cr.1-3
Seminar in Health Education
Reading and reports on selected topics in health education. Repeatable for credit - maximum six. Prerequisite: permission of advisor. Consent of instructor. Offered Occasionally.

HED 752 Cr.3
Mental Health
Theory and application of principles of mental health in human relationships. Offered Occasionally.

HED 770 Cr.3
Health Counseling
This course is designed to develop basic skills in interviewing and counseling for the health educator. Three basic components include an understanding of self, knowledge of helping skills, and experience in applying these skills. Offered Occasionally.

HED 798 Cr.1-4
Graduate Project in Health Education
This capstone experience provides the health education master’s degree candidate with an opportunity for in-depth individual study of a health education problem and demonstration of advanced professional program development, implementation, and evaluation. The project will be planned and carried out under graduate faculty approval and supervision. An oral and written project presentation will be required. Repeatable for credit - maximum four. Offered Fall, Spring, Summer.

HED 799 Cr.1-4
Research: Master's Thesis
Independent study on a problem selected for a thesis under the direction of a graduate faculty member. Repeatable for credit - maximum four. Prerequisite: HED 706. Offered Fall, Spring, Summer.

Information Systems (IS) - Graduate Courses

Courses

IS 410/510 Cr.3
Information Security Management
This course provides a comprehensive treatment of the managerial aspect of information security. Concepts of information security management (ISM) related to governance, risk management, and compliance will be acquired from a survey of contemporary literature including textbooks, journal articles, and online publications while positive models serving as industry standards that are governing today’s ISM practice will be introduced and compared. Prerequisite: IS 220 or CS 220 or 2 year relevant industry experience. Offered Fall.
IS 797 Cr.1-3
Independent Study
Individual reading or research under the guidance of a faculty member. Registration with consent of the student's regular advisor, and the department chairperson. Approval form available in the Office of the Dean of the College of Business Administration. Form must be completed prior to registration. Repeatable for credit - maximum three. Prerequisite: must have completed a minimum of 24 credits in the MBA Program with a minimum GPA of 3.50. Maximum of three credits of independent study in any combination of ACC 797, ECO 797, FIN 797, MGT 797 and MKT 797. Consent of department. Offered Fall, Spring, Summer.

International Studies (INS) - Graduate Courses

Courses
INS 425/525 Cr.2-3
Interdisciplinary Seminar in International Studies
An in-depth examination of selected topics in international studies. The course is interdisciplinary and organized along thematic lines. Topics vary. Repeatable for credit - maximum six. Offered Occasionally.

INS 426/526 Cr.1
International Study Tour
Group travel to explore selected topics in international studies. Must be taken concurrently with university course at upper level or graduate level that includes foreign travel or foreign tour. Departmental option for pass/fail or letter grading. Offered Occasionally.

Management (MGT) - Graduate Courses

Courses
MGT 700 Cr.1-3
Management Forum
Emphasis will be on the examination and study of current management issues. Topics will vary from semester to semester. Repeatable for credit - maximum six. Offered Occasionally.

MGT 702 Cr.2
Operations Foundation
Introduction to the role of operations management in an organization, including production processes, linear programming, layout, inventory control, scheduling, project management, and quality assurance. This course is an internet MBA foundation course. Offered Occasionally.

MGT 703 Cr.2
Organizational Behavior
Current theories of organizational behavior are studied with emphasis on contributions of the behavioral sciences in describing and analyzing the behavior of individuals and groups in organizations. Problems and strategies in organizational growth and change are studied. Application of concepts and development of interpersonal skills are accomplished through case analysis, practical exercises and examples. This course is an internet MBA foundation course. Offered Occasionally.

MGT 710 Cr.3
Innovation and Technology Management
This course focuses on the management of innovation and technology in today's technologically integrated and interconnected world. It examines the nature of both innovation and technology from a managerial perspective and investigates what is required to manage both. A combination of lectures, readings, projects and structured exercises will be used. Prerequisite: admission to the MBA Program. Offered Occasionally.

MGT 734 Cr.3
Small Business Management
Advanced study in the function and role of small business management. Determination of the management team strategy in solving the wide variety of problems encountered by the small firm. Emphasis on analytical case studies. Offered Occasionally.

MGT 736 Cr.3
The Global Environment of Business
This course focuses on current changes in the global environment with which U.S. corporations and managers interact. Emphasis is placed on understanding contemporary changes in the global environment. Contemporary and current changes are examined from a managerial and business perspective that focuses on the inter-dependence of the U.S. and other countries and trading blocs in the global environment of business. Offered Occasionally.

MGT 738 Cr.3
Labor-Management Relations
An in-depth examination of the process, structure, evaluation and practices of effective labor-management relations. Special emphasis will be given to the impact of unions on management, grievances, collective bargaining, arbitration, public sector, labor relations and the nature of unions. Offered Occasionally.

MGT 740 Cr.3
Current Issues in Human Resources and Industrial Relations

MGT 742 Cr.3
Continuous Quality Improvement for Products and Processes
Course covers customer, output, process, input, stake and stock holders, and decision making functions as they relate to continuous quality improvement. The focus is on delivering the "best net value" to the customer. Students will investigate forming organizational alliances and consensus thinking; integrating corporate functions; developing customer orientation and facilitating teamwork. Site visits and guest lectures will be incorporated. Team-taught. Certificate of Proficiency will be issued upon course completion. Prerequisite: MTH 145 or equivalent. Pass/Fail grading. Offered Occasionally.
Courses

MGT 797 Cr.1-3

Independent Study
Individual reading or research under the guidance of a staff member. Registration with consent of the student’s regular adviser, the instructor, and the department chairperson. Approval form available in the office of the Dean of the College of Business Administration. Form must be completed prior to registration. Repeatable for credit - maximum three. Prerequisite: admission to the MBA Program with a minimum 3.50 cum GPA; completed a minimum of 21 credits in the MBA Program. Maximum of three credits of independent study in any combination of ACC 797, ECO 797, FIN 797, MGT 797 and MKT 797. Consent of department. Offered Fall, Spring, Summer.

Marketing (MKT) - Graduate Courses

Courses

MKT 700 Cr.2
Marketing Principles
Marketing is the business function that identifies customer needs and wants, determines which target markets the organization can best serve, and designs appropriate products and services to serve those markets. The goal of marketing is to create customer satisfaction profitably by building value-laden relationships with customers. The goal of this course is to develop students' analytical ability and managerial perspective in the planning of comprehensive marketing programs. This course is an internet MBA foundation course. Offered Annually.

MKT 745 Cr.3
International Marketing: Environment and Operations
An advanced examination and analysis of the legal, political, economic and cultural factors influencing the marketing of goods and services abroad. Special emphasis will be placed upon the complexity of foreign operations through the formulation, negotiation and implementation of strategic marketing decisions for overseas markets. (Not open for credit to students who have completed or who are enrolled in MKT 341.) Offered Occasionally.

MKT 749 Cr.3
Seminar in Marketing
An advanced course in marketing devoted to the exploration of new developments in marketing theory and investigation of marketing problems. Offered Occasionally.

MKT 797 Cr.1-3
Independent Study
Individual reading or research under the guidance of a staff member. Registration with consent of the student’s regular adviser, the instructor, and the department chairperson. Approval form available in the office of the Dean of the College of Business Administration. Form must be completed prior to registration. Repeatable for credit - maximum three. Prerequisite: admission to the MBA Program with a minimum 3.50 cum GPA; completed a minimum of 21 credits in the MBA Program. Maximum of three credits of independent study in any combination of ACC 797, ECO 797, FIN 797, MGT 797 and MKT 797. Consent of instructor. Offered Annually.

Mathematics (MTH) - Graduate Courses

Courses

MTH 405/505 Cr.3
Statistical Methods
A survey of statistical methods from the point of view of how these methods are implemented with a statistics software package. Topics include descriptive statistics, graphical methods, tests of location, goodness of fit, simple and multiple regression, design of experiments, ANOVA, multiple comparisons, chi-square tests. Both parametric and nonparametric methods are treated. Computer use is an integral part of the course. Prerequisite: grade of "C" or better in MTH 145 or MTH 245. Offered Fall, Spring.

MTH 443/543 Cr.3
Categorical Data Analysis
An introduction to categorical data analysis covering summaries and inference for categorical response and count data, analysis of contingency tables, generalized linear models for binary and count data, logistic regression, multivariable logit models, and loglinear models for contingency tables with an emphasis on applications and implementation using computer software. Prerequisite: grade of "C" or better in MTH 245 or MTH 405/505. Offered Fall - Even Numbered Years.

MTH 445/545 Cr.3
Correlation and Regression Analysis
An introduction to simple linear regression, multiple regression, polynomial regression. Inferences, appropriateness of model, model diagnostics/adequacy, difficulties in the application of models are discussed. A computer package will be used. Course participants will be involved with hands-on statistical applications and consulting. Prerequisite: grade of "C" or better in MTH 245 or MTH 405/505. Offered Fall.

MTH 446/546 Cr.3
Analysis of Variance and Design of Experiments
An introduction to single factor, and randomized block designs in analysis of variance. Inferences, appropriateness of model, model diagnostics/adequacy, difficulties in the application of models are discussed. Design or structure of an experiment will be discussed. A computer package will be used. Course participants will be involved with hands-on statistical applications and consulting. Prerequisite: grade of "C" or better in MTH 245 or MTH 405/505. Offered Spring - Odd Numbered Years.

MTH 447/547 Cr.3
Nonparametric Statistics
An introductory course presenting the theory and procedures for using distribution-free methods in data analysis. Standard procedures, such as the Wilcoxon tests, Kruskal-Wallis, Kolmogorov-Smirnov, nonparametric confidence intervals, regression analysis, and powers of the tests will be included. Computer programs will be used when appropriate. Prerequisite: grade of "C" or better in MTH 245 or MTH 405. Offered Spring - Even Numbered Years.

MTH 449/549 Cr.3
Applied Multivariate Statistics
An introduction to applied multivariate statistical methods covering multivariate analysis of variance, multivariate analysis of covariance, repeated measures design, factor analysis, principle component analysis, cluster analysis, discriminate analysis, and multivariate regression. Course participants will be involved with hands-on statistical applications. Prerequisite: grade of "C" or better in MTH 245 or MTH 405. Offered Fall - Odd Numbered Years.

MTH 545/745 Cr.3
Categorical Data Analysis
An introduction to categorical data analysis covering summaries and inference for categorical response and count data, analysis of contingency tables, generalized linear models for binary and count data, logistic regression, multivariable logit models, and loglinear models for contingency tables with an emphasis on applications and implementation using computer software. Prerequisite: grade of "C" or better in MTH 245 or MTH 405/505. Offered Fall - Even Numbered Years.

MTH 547/747 Cr.3
Analysis of Variance and Design of Experiments
An introduction to single factor, and randomized block designs in analysis of variance. Inferences, appropriateness of model, model diagnostics/adequacy, difficulties in the application of models are discussed. Design or structure of an experiment will be discussed. A computer package will be used. Course participants will be involved with hands-on statistical applications and consulting. Prerequisite: grade of "C" or better in MTH 245 or MTH 405/505. Offered Spring - Odd Numbered Years.

MTH 549/749 Cr.3
Nonparametric Statistics
An introductory course presenting the theory and procedures for using distribution-free methods in data analysis. Standard procedures, such as the Wilcoxon tests, Kruskal-Wallis, Kolmogorov-Smirnov, nonparametric confidence intervals, regression analysis, and powers of the tests will be included. Computer programs will be used when appropriate. Prerequisite: grade of "C" or better in MTH 245 or MTH 405. Offered Spring - Even Numbered Years.

MTH 746/846 Cr.3
Analysis of Variance and Design of Experiments
An introduction to single factor, and randomized block designs in analysis of variance. Inferences, appropriateness of model, model diagnostics/adequacy, difficulties in the application of models are discussed. Design or structure of an experiment will be discussed. A computer package will be used. Course participants will be involved with hands-on statistical applications and consulting. Prerequisite: grade of "C" or better in MTH 245 or MTH 405/505. Offered Spring - Odd Numbered Years.
MTH 495/595 Cr.1-3
Special Topics in Mathematics
Special topics in mathematics not covered by regular courses taught in this department, such as topology, set theory and advanced numerical analysis. The particular topic is decided mutually by the students and the instructor. Repeatable for credit – maximum six. Consent of instructor. Offered Occasionally.

MTH 496/596 Cr.1-3
Special Topics in Statistics
Special topics in statistics not covered by regular courses taught in this department. The particular topic is decided by the instructor. Repeatable for credit – maximum six. Consent of instructor. Offered Occasionally.

MTH 651 Cr.1
Number and Operations in Middle School Mathematics
A study of the mathematical concepts, properties and techniques that are fundamental to integers, rational and irrational numbers, and other number systems. Emphasis is on using mathematical reasoning, explaining concepts, justifying statements with informal logical arguments, developing mathematical models and integrating knowledge from different areas of mathematics as appropriate for middle school mathematics. Students will be expected to become knowledgeable with the results of research in the teaching and learning of numbers and operation with numbers. Prerequisite: admission to the Middle School Mathematics Certificate Program. Offered Occasionally.

MTH 652 Cr.1
Geometry and Measurement for Middle School Teachers
A study of the mathematical concepts, properties and techniques that are fundamental to two- and three-dimensional geometry, including measurement, transformations, constructions, definitions, and proofs. Emphasis is on using mathematical reasoning, explaining concepts, justifying statements with informal logical arguments, developing mathematical models and integrating knowledge from different areas of mathematics as appropriate for middle school mathematics. Students will be expected to become knowledgeable with the results of research in the teaching and learning of geometry. Prerequisite: admission to the Middle School Mathematics Certificate Program. Offered Occasionally.

MTH 653 Cr.1
Algebraic Reasoning in Middle School Mathematics
A study of the mathematical concepts, properties and techniques that are fundamental to the development of algebraic structures, including variables, patterns, algebraic expressions and operations, and solving equations. Emphasis is on using mathematical reasoning, explaining processes, describing and modeling real-world phenomena and integrating knowledge from different areas of mathematics as appropriate for middle school mathematics. Students will be expected to become knowledgeable with the results of research in the teaching and learning of algebraic concepts. Prerequisite: admission to the Middle School Mathematics Certificate Program. Offered Occasionally.

MTH 654 Cr.1
Probability for Middle School Teachers
A study of the mathematical concepts, properties and techniques that are fundamental to probability, including counting techniques, expected value, probability distributions, and conditional probability. Emphasis is on using mathematical reasoning, explaining concepts, interpreting probabilities, applying both experimental and theoretical techniques to solve problems and integrating knowledge from different areas of mathematics as appropriate for middle school mathematics. Students will be expected to become familiar with the results of research in the teaching and learning of probability concepts. Prerequisite: admission to the Middle School Mathematics Certificate Program. Offered Occasionally.

MTH 655 Cr.1
Statistics in Middle School Mathematics
A study of the mathematical concepts, properties and techniques that are fundamental to statistical analysis. Emphasis is on collecting, interpreting, and analyzing data, using the results of data analysis to make predictions and confirm or deny hypotheses, and integrating knowledge from different areas of mathematics as appropriate for middle school mathematics. Technology is used to generate displays, compute summary statistics and design presentations. Students will be expected to become familiar with the results of research in the teaching and learning of statistics. Prerequisite: admission to the Middle School Mathematics Certificate Program. Offered Occasionally.

MTH 656 Cr.1
Functions and Graphs in Middle School Mathematics
A study of the mathematical properties, graphs and applications of linear, quadratic, polynomial, exponential and power functions. Emphasis is on recognizing functional relationships, demonstrating the relationship between a function and its graph, describing and modeling real-world phenomena and integrating knowledge from different areas of mathematics as appropriate for middle school mathematics. Students will be expected to become knowledgeable with the results of research in the teaching and learning of concepts relating to functional relationships and graphical representations. Prerequisite: admission to the Middle School Mathematics Certificate Program. Offered Occasionally.

MTH 657 Cr.2
Mathematical Problem Solving in Middle School Mathematics
A study of general mathematical processes and techniques that are used to solve problems in middle school mathematics. Emphasis is on communicating logical arguments, applying a variety of problem-solving strategies, using appropriate mathematical language and analyzing both routine and non-routine problems encountered in middle school mathematics. Issues relating to the methods, materials, and the research-based teaching strategies of problem solving at the middle school level will also be discussed. Prerequisite: admission to the Middle School Mathematics Certificate Program. Offered Occasionally.

MTH 658 Cr.2
Mathematical Assessment in Middle School Mathematics
A study of current strategies and techniques to assess student knowledge and problem-solving ability in mathematics. Emphasis is on connecting assessment theory and models to teachers’ practices through recognizing student errors and misconceptions, identifying prerequisite knowledge necessary for understanding of mathematical concepts, developing constructed-response questions and creating performance-based activities for assessing both procedural and conceptual mathematical understanding, and implementation of an action research plan. Prerequisite: admission to the Middle School Mathematics Certificate Program. Offered Occasionally.

MTH 659 Cr.1-3
Special Topics in Mathematics
Special topics in mathematics, mathematics education and statistics not covered by regular courses taught in the mathematics department. The particular topic selected to be determined by the mathematics department according to need and interest. Repeatable for credit. Consent of instructor. Offered Occasionally.

MTH 796 Cr.1-3
Directed Studies
Directed readings or presentation of special topics in mathematics. Repeatable for credit – maximum six. Consent of instructor. Offered Occasionally.
Medical Dosimetry (DOS) - Graduate Courses

Courses

DOS 511 Cr.2
Imaging & Localization Concepts
The treatment planning simulation process will be reviewed to include methods of accurate patient positioning, immobilization, and tumor localization. Current imaging techniques used to acquire detailed planning data for virtual simulation will be reviewed. Techniques discussed will include, but will not be limited to: CT, MRI, ultrasound, and radionuclide scans. Web-based course. Prerequisite: acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall.

DOS 513 Cr.1
Anatomy for Medical Dosimetrists
Anatomical structure and function which affects treatment planning processes is addressed along with identification of anatomic structures on radiographs, CT and MRI images. Web-based course. Prerequisite: acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall.

DOS 514 Cr.3
Physics Fundamentals for Medical Dosimetrists
Fundamental principles of physics important to the production and use of radiation for treatment purposes are reviewed and expanded. Dose measurement utilizing a variety of methods is discussed along with the appropriate instrumentation. Calibration methods for linear accelerators are also discussed. Prerequisite: acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall.

DOS 515 Cr.1
Computers & Networking in Radiation Oncology
This course introduces students to basic computer terminology, features of hardware, peripherals, and clinical applications in radiation oncology. Types of networking and the components involved are discussed. Specific network protocols used in healthcare, imaging, and radiation oncology will be described. Prerequisite: acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall.

DOS 516 Cr.1
Fundamentals of Radiation Safety
Radiation safety measures are reviewed and updated according to federal and state mandates. Web-based course. Prerequisite: acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall.

DOS 518 Cr.1
Professionalism and Mentoring in Medical Dosimetry
This course introduces the student to professional practices of medical dosimetry including standards, scope of practice, ethics and legal perspectives. Students will also discuss the importance of education and mentoring in medical dosimetry. Different aspects of education in the profession will be examined to prepare the student for various roles as a medical dosimetry mentor. Prerequisite: acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall, Spring, Summer.

DOS 522 Cr.2
Radiation Dose Calculations
This course introduces factors that affect dose delivered in radiation treatments and how these factors are accounted for in dose calculations. Web-based course. Prerequisite: DOS 511; acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall, Spring, Summer.

DOS 523 Cr.3
Treatment Planning in Medical Dosimetry
Methods of treatment planning techniques for various diseases using single and multiple field arrangements using photons and electrons are discussed. Advanced treatment planning techniques of conformal radiation therapy including 3D treatment planning, IMRT, IGRT, Gating, Protons, and Stereotactic are also discussed. Prerequisite: DOS 511; acceptance into the Master of Science in Medical Dosimetry Program. Offered Spring.

DOS 525 Cr.2
Brachytherapy for Medical Dosimetrists
The use of Brachytherapy in radiation therapy is addressed. Characteristics of sources utilized for treatment as well as determination of source activity and dose delivered are included. Methods and instruments utilized to apply Brachytherapy treatment planning techniques to clinical treatment situations are discussed. Web-based course. Prerequisite: acceptance into the Master of Science in Medical Dosimetry Program. Offered Spring.

DOS 531 Cr.3
Clinical Oncology for Medical Dosimetrists
This course covers cancer in general as well as specific disease sites, their treatment and management of patient care during treatment. Web-based course. Prerequisite: DOS 515; acceptance into the Master of Science in Medical Dosimetry Program. Offered Summer.

DOS 541 Cr.1
Radiobiology for Medical Dosimetrists
This course reviews the effect of radiation on the human body in the context of radiation treatments. It particularly focuses on factors affecting the therapeutic ratio. Web-based course. Prerequisite: DOS 522; acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall.

DOS 542 Cr.1
Dosimetric Quality Assurance
The methods and importance of periodic quality assurance procedures of treatment planning equipment and processes are covered in this course. Web-based course. Prerequisite: acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall.

DOS 543 Cr.1
Seminar in Medical Dosimetry
This course offers students an opportunity to practice answering questions and solving problems as they review course material to prepare for the national medical dosimetry certification board exam. Web-based course. Prerequisite: DOS 531; acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall.

DOS 711 Cr.2
Research Methodology in Medical Dosimetry I
This course serves as an introduction of fundamental principles of research methodology and how principles are applied for conducting research in health sciences. Students will be introduced to basic terms and focus on the overall structure of the research process. The course will help students prepare to select a research topic and develop questions related to it. Library and literature resources and procedures for using them will be described in detail. Students will learn how to formulate a research hypothesis. This course will help prepare students for their own scholarly project. Web-based course. Prerequisite: acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall, Spring, Summer.
DOS 731 Cr.2
Research Methodology in Medical Dosimetry II
This course follows in sequence the Research Methodology in Medical Dosimetry I course and expands on research terminology. This course discusses ethical concerns and legal responsibilities associated with conducting research. Sampling, measuring instruments and statistics will be discussed in detail. Types of research will be described in detail while expanding on principles from the Research Methodology in Medical Dosimetry I course. Students will learn the process of writing and evaluating the final research report. Web-based course. Prerequisite: DOS 711; acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall, Spring, Summer.

DOS 741 Cr.1
Protocols & Studies in Radiation Oncology
This course provides a broad overview of cancer clinical trials. Students will discuss improving the approaches to cancer prevention, diagnosis, and treatment. Advantages and disadvantages of clinical trials for patients, the general population, and health care providers are discussed. The role of the medical dosimetrist involved in clinical trials is described in depth. Web-based course. Prerequisite: acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall, Spring, Summer.

DOS 750 Cr.1
Professional e-Portfolio
This course prepares students for the development of a professional e-portfolio. Students will discover the basic concepts of designing and creating an e-portfolio, terminology, and components included in a professional e-portfolio. Students will gather artifacts and materials throughout the program to develop a comprehensive e-portfolio project. The course will focus on additional components such as electronic multimedia files, course assessment components, self-reflections, achievements, and other reflective learning enhancements for the comprehensive e-portfolio. Web-based course. Prerequisite: acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall, Spring, Summer.

DOS 751 Cr.2
Research Methodology in Medical Dosimetry III
This course follows in sequence with the Research Methodology in Medical Dosimetry II course and serves as the culminating research course. Students will utilize peer review and editing, and various elements of individualized instruction while preparing their final research report. Students will be prepared to have their final reports in a publishable format to enter the AAMD national student writing competition. Web-based course. Prerequisite: DOS 731; acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall, Spring, Summer.

DOS 752 Cr.1
Operational Issues in Radiation Oncology
The course focuses on various radiation oncology operational issues. The strategic planning process of organizations will be presented. Human Resource concepts and regulations impacting the medical dosimetrist will be examined. Accreditation agencies and the medical dosimetrist’s role in the process will be discussed. Medical insurance coding, billing, and reimbursement issues pertinent to the radiation oncology department will be presented. Development and management of a department budget will be discussed. Continuous Quality Improvement (CQI) project development and evaluation and assessment techniques will be emphasized. Web-based course. Prerequisite: DOS 741; acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall, Spring, Summer.

DOS 771 Cr.5
Dosimetry Clinical Practicum I
Students gain clinical experience in Simulation patient set-ups and imaging studies, physics and radiation safety in the clinical environment, anatomical contour segmentation, and computers and networking within the radiation oncology field. Students will begin basic calculations and treatment planning while being introduced to brachytherapy procedures. Prerequisite: DOS 711; acceptance into the Master of Science in Medical Dosimetry Program. Offered Spring.

DOS 772 Cr.5
Dosimetry Clinical Practicum II
Students continue to gain clinical experience at an affiliated clinical internship site by concentrating on more advanced treatment planning and Brachytherapy procedures while continuing to learn the various concepts of clinical oncology specific to patient treatments. Prerequisite: DOS 771; acceptance into the Master of Science in Medical Dosimetry Program. Offered Summer.

DOS 773 Cr.5
Dosimetry Clinical Practicum III
Students continue to improve their treatment planning and dosimetric skills, concentrating on advanced planning methods and quality assurance techniques. Prerequisite: DOS 772; acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall.

DOS 781 Cr.3
CMD Seminar I
This seminar course is the first in a series of three designed exclusively for students in the master’s degree completion program (Track C) who are currently certified medical dosimetrists. The course provides the student with directed study and review of professional didactic course content. The course also provides the opportunity for practice examinations and group study support (online). Examinations will be given to test mastery of this didactic content. This course is taken synchronously with DOS 791, "Fieldwork I." Students will have the opportunity to apply this didactic content in their fieldwork placements. Content covered in this course includes: Advanced Imaging, Simulation for Medical Dosimetrists, Anatomy for Medical Dosimetrists, Physics Fundamentals, and Computers & Networking in Radiation Oncology. The course also provides the opportunity for practice examinations and group study support (online). Examinations will be given to test mastery of this didactic content. This course is taken synchronously with DOS 791, "Fieldwork I." Students will have the opportunity to apply this didactic content in their fieldwork placements.

DOS 782 Cr.3
CMD Seminar II
This seminar course is the second in a series of three designed exclusively for students in the master’s degree completion program (Track C) who are currently certified medical dosimetrists. The course provides the student with directed study and review of professional didactic course content. The course also provides the opportunity for practice examinations and group study support (online). Examinations will be given to test mastery of this didactic content. This course is taken synchronously with DOS 792, "Fieldwork II." Students will have the opportunity to apply this didactic course in their fieldwork placements. Content covered in this course includes: Professional courses reviewed exclusively for students in the master’s degree completion program (Track C) who are currently certified medical dosimetrists. The course provides the student with directed study and review of professional didactic course content. The course also provides the opportunity for practice examinations and group study support (online). Examinations will be given to test mastery of this didactic content. This course is taken synchronously with DOS 792, "Fieldwork II." Students will have the opportunity to apply this didactic course in their fieldwork placements.
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DOS 783 Cr.3
CMD Seminar III
This seminar course is the third in a series of three designed exclusively for students in the master’s degree completion program (Track C) who are currently certified medical dosimetrists. The course provides the student with directed study and review of professional didactic course content. The course also provides the opportunity for practice examinations and group study support (online). Examinations will be given to test mastery of this didactic content. This course is taken synchronously with DOS 793, “Fieldwork III.” Students will have the opportunity to apply this didactic content in their fieldwork placements. Content covered in this course includes: Brachytherapy, Clinical Oncology, Radiobiology, and Quality Assurance. Prerequisite: DOS 782; DOS 792; must be taken concurrently with DOS 793; acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall, Spring, Summer.

DOS 791 Cr.4
Fieldwork I
This level one fieldwork experience is an opportunity to demonstrate the practice of medical dosimetry in the clinical environment at a basic level. The course provides an opportunity to integrate the didactic curriculum learned for the successful completion of the MDCB exam. The focus of case studies will include imaging, patient treatment setups, anatomical contour segmentation, and computers and networking physics, and radiation safety. Supervision is provided by medical physicist and radiation oncologists. Prerequisite: acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall, Spring, Summer.

DOS 792 Cr.4
Fieldwork II
This level two fieldwork experience is an opportunity to demonstrate the practice of medical dosimetry in the clinical environment at an intermediate level. The course provides an opportunity to integrate the didactic curriculum learned for the successful completion of the MDCB exam. The focus of case studies will include professional issues, radiation dose calculations, treatment planning, Brachytherapy, and clinical oncology. Supervision is provided by medical physicist and radiation oncologists. Prerequisite: DOS 791; acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall, Spring, Summer.

DOS 793 Cr.4
Fieldwork III
This level three fieldwork experience is an opportunity to demonstrate the practice of medical dosimetry in the clinical environment at an advanced level. The course provides an opportunity to integrate the didactic curriculum learned for the successful completion of the MDCB exam. The focus of case studies will include radiobiological principles, dosimetric and departmental quality assurance processes, advanced treatment planning techniques, and seminar work. Supervision is provided by medical physicist and radiation oncologists. Prerequisite: DOS 792; acceptance into the Master of Science in Medical Dosimetry Program. Offered Fall, Spring, Summer.

Microbiology (MIC) - Graduate Courses

MIC 500 Cr.2
Orientation to Clinical Microbiology
This course will explore career opportunities within clinical microbiology including public health, diagnostic testing, basic and industrial research and development, and pharmaceutical sales. Discussion will focus on academic and professional requirements for each career track. The course will also cover clinical laboratory management, infection control, diagnostic techniques, and communication skills. Offered by resident faculty and visiting lecturers. Prerequisite: MIC 230 or equivalent; admission to the Clinical Microbiology Program. Offered Fall.

MIC 407/507 Cr.4
Pathogenic Bacteriology
The study of pathogenic bacteria and their relationships to disease; principles of infection and pathogenesis, and unique properties of pathogens. Laboratory emphasis is on techniques for isolation and identification of pathogenic bacteria. Lect. 2, Lab 4. Prerequisite: MIC 230. Offered Fall, Spring.

MIC 410/510 Cr.2
Immunology Laboratory
Designed as an introduction to immunology techniques used in clinical and research laboratories. Includes antibody-based diagnostic tests such as ELISA and Western blot. Cell-based techniques include lymphocyte culture and flow cytometry. Prerequisite: MIC 310 or concurrent enrollment. Offered Fall, Spring.

MIC 416/516 Cr.5
Microbial Genetics
An in-depth study of the bacterial and bacteriophage genome with emphasis on the central dogma. Specific topics include DNA replication, transcription and translation, DNA mutation and repair, regulation of gene expression, mechanisms of genetic exchange, plasmid structure and function, transposition, gene mapping, and recombination. Laboratory emphasis is on the techniques used in bacterial mutagenesis, genetic exchange, gene mapping, and gene cloning. Lect. 2, Lab. 6. Prerequisite: MIC 230; three semesters of college chemistry including organic. Offered Fall.

MIC 420/520 Cr.3
Introductory Virology
An introduction to viruses and their interactions with host organisms. Special emphasis is placed on the structure and replication cycles of virus families with medical importance. Prerequisite: MIC 230; MIC 416/516 or BIO 306 or BIO 435/535 and three semesters of college chemistry to include organic chemistry. Offered Spring.

MIC 421/521 Cr.2
Virology Laboratory
A laboratory course designed to introduce fundamental techniques used to study viruses in medicine, biotechnology and research. Emphasis is on procedures used to safely handle viruses, grow them in tissue culture, and the molecular biological, biochemical and immunological techniques used to detect and analyze viruses. Lab. 4. Prerequisite: MIC 230; MIC 416/516 or BIO 306 or BIO 435/535 and three semesters of college chemistry to include organic chemistry. Offered Fall.

MIC 425/525 Cr.5
Bacterial Physiology
An in-depth study of bacterial structure and function, catabolic and anabolic pathways, regulation, and macromolecular synthesis. Laboratory emphasis is on current techniques used to examine bacterial structure and metabolism such as macromolecular separations and quantification, use of radioisotopic tracers and quantification of enzyme activity. Lect. 2, Lab. 6. Prerequisite: MIC 230; MTH 145 or higher; CHM 300 or CHM 303. Offered Spring.
MIC 427/527 Cr.3
Industrial and Fermentation Microbiology
A study of microbiology and biochemistry of food fermentations; bioconversions; production of antibiotics, vitamins, amino acids and organic acids. Prerequisite: MIC 230 and two semesters of college chemistry. Offered Fall - Odd Numbered Years.

MIC 428/528 Cr.2
Fermentation Microbiology Laboratory
Principles of fermentation science and biotechnology with emphasis on industrial and food fermentation processes. Laboratory emphasis is on the use of various fermentation systems that generate useful products including fermented food and beverages, pharmaceuticals, chemicals and other gene products. Prerequisite: MIC 230 and two semesters of college chemistry. Offered Occasionally.

MIC 434/534 Cr.3
Aquric Microbial Ecology
An ecological study of bacteria, cyanobacteria and algae of aquatic ecosystems. Topics include microbial strategies for survival under various environmental conditions, the role of microorganisms in biogeochemical cycling of elements, interactions of microorganisms with other aquatic biota, the role of microorganisms in pollution problems, and applications of microbial ecology to biotechnology. Laboratory emphasis is on experimental design and sampling techniques, quantification of microbial biomass, and measurement of microbial activities in aquatic habitats. One weekend field trip required. Lect. 2, Lab. 3. Prerequisite: MIC 230 and three semesters of college chemistry; BIO 341 strongly recommended. Offered Fall - Even Numbered Years.

BIO/MIC 440/540 Cr.2
Bioinformatics
In this course, students will use computers to study and compare the sequence of nucleotides in DNA or RNA, or the amino acids in a protein. Computers are also used to examine the three dimensional structure of protein. Being able to manipulate and study this information is the basis for the current revolution in biotechnology. Topics include evolution, taxonomy, genomics and understanding disease. This course provides students an opportunity to explore the relationships between biology, microbiology, chemistry, and computer science. Lect. 2, Lab 1. Prerequisite: BIO 306 or MIC 416/516. (Cross-listed with BIO/MIC; may only earn credit in one department.) Offered Spring, Winter.

BIO/MIC 442/542 Cr.3
Plant Microbe Interactions
This course will explore in-depth various ways that plants interact with microbes in the environment, at the macroscopic, cellular, and molecular levels. Case studies will include both parasitic and mutualistic (symbiotic) interactions. Microbes include fungi, bacteria, nematodes, and viruses. Includes plant pathology and studies of the beneficial relationships between plants and microbes. Inquiry-based labs are integrated into the lecture and discussion sessions. Lect. 2, Lab 2. Prerequisite: BIO 203 or BIO 304; MIC 230; BIO 306 or MIC 416. (Cross-listed with BIO/MIC; may only earn credit in one department.) Offered Spring - Even Numbered Years.

MIC 455/555 Cr.3
Field and Laboratory Methods in Vector-Borne and Zoonotic Disease Research
This course will explore methods used in vector-borne and zoonotic disease research. Students will learn current field and laboratory techniques used to understand the epidemiology, spread, and transmission of vector-borne, infectious diseases (VBID's) and other zoonotic diseases. Emphasis will be placed on sample collection in the field from birds, mammals, and vectors as well as processing and testing samples from the causative agents of West Nile encephalitis. Eastern equine encephalitis, Lyme disease, Human granulocytic ehrlichiosis (HGE), and others. Attention will focus on experimental design and computer methods used in study design and application. Lecture/Lab full-time three weeks. Course offered off campus. Prerequisite: MIC 230 or equivalent. Offered Occasionally.

MIC 460/560 Cr.1-3
Symposium in Microbiology
Varying topics in microbiology with a specific title assigned to each. Offered by resident faculty or visiting lecturers. Repeatable for credit - maximum six. Prerequisite: MIC 230. Offered Occasionally.

BIO/MIC 714 Cr.3
Advanced Genetics
The application of molecular-genetic analysis to problems in modern biology. The course will cover the fundamentals of genetic analysis in both procaryotic and eucaryotic systems. Assigned readings from current literature will be discussed and evaluated. A variety of topic areas will be considered including ecology, biotechnology, bioremediation, food science, medicine and basic research. Prerequisite: a previous course in genetics, microbial genetics, or molecular biology. (Cross-listed with BIO/MIC; may only earn credit in one department.) Offered Spring - Odd Numbered Years.

BIO/MIC 721 Cr.1-2
Directed Studies
Directed readings or presentation of material not available in formal departmental courses. Repeatable for credit - maximum four between BIO and MIC. (Cross-listed with BIO/MIC.) Offered Fall, Spring.

MIC 730 Cr.2
Biodegradation and Bioremediation of Environmental Contaminants
Microbes are able to breakdown, or biodegrade, a wide variety of compounds including some considered hazardous to human health and/or the environment. The use of microbes as biological agents to reclaim polluted soils and waters is called bioremediation. This course will explore some of the better-studied mechanisms used by microbes to degrade and detoxify contaminants. Practical aspects for the use of microbes in bioremediation and some specific examples will also be covered. In addition, the students will present and discuss a series of special topics such as nuclear waste bioremediation or current cleanup efforts in the news. Prerequisite: one semester organic chemistry; MIC 230 or equivalent microbiology course. Offered Fall - Odd Numbered Years.

BIO/MIC 751 Cr.1
Graduate Seminar
Reading, oral reports, and discussion on selected topics in biology. Repeatable for credit - maximum two. (Cross-listed with BIO/MIC.) Offered Fall, Spring.
MIC 753 Cr.2
**Epidemiology of Infectious Disease**
This course examines the causes, distribution, control, and prevention of infectious disease in human populations. Basic epidemiological concepts, including study design, analysis and modeling of infectious disease data, establishing causal relationships, detecting confounding factors, and assessing risk will be presented. Emphasis will be placed on issues of special interest to the clinical epidemiologist including laboratory diagnosis used in outbreak investigations by microbiological, serological and molecular techniques. In addition, methods to evaluate the accuracy and usefulness of diagnostic tests will be examined. Prerequisite: MIC 407/507 or equivalent course. MTH 145 or PH 755. Offered Spring - Even Numbered Years.

MIC 755 Cr.2
**Advanced Immunology**
An in-depth study of advanced topics in immunology, primarily focusing on the genetics, mechanisms, and regulation of the immune system. Aspects of the immune response in a variety of disease conditions (infectious and non-infectious) will be discussed. Prerequisite: MIC 310 and MIC 410/510, or equivalent. Offered Fall - Odd Numbered Years.

MIC 761 Cr.2
**Research and Seminar in Microbiology**
In-depth literature review of a current research topic in microbiology. As part of the requirements for this course and for the degree each student must complete an acceptable seminar paper under the direction of an assigned faculty member. Not applicable to students pursuing a Plan A thesis. Offered Fall, Winter, Spring, Summer.

MIC 770 Cr.5
**Clinical Microbiology Practicum I**
Students spend at least 8 full-time weeks (40 hrs/wk) in the clinical laboratories at Gundersen Lutheran Medical Center where they receive training and hands-on experience in clinical microbiology, immunology, parasitology, mycology, and virology. In addition, students will actively participate with physicians, residents, and medical students in weekly infectious disease rounds and journal club. A special course fee applies. Prerequisite: acceptance into Biology: Clinical Microbiology MS Program. Offered Fall, Spring, Summer.

MIC 780 Cr.4
**Clinical Microbiology Practicum II**
Students spend at least 6 full-time weeks (40 hrs/wk) in the clinical laboratories at Marshfield Laboratories/St. Joseph's Hospital/Marshfield Clinic. Training will include hands-on experience with state-of-the-art molecular biology techniques. Specific exercises involving molecular epidemiology and infection control will be emphasized. Students will also participate in weekly infectious disease rounds and journal club. A special course fee applies. Prerequisite: acceptance into Biology: Clinical Microbiology MS Program. Offered Fall, Spring, Summer.

MIC 790 Cr.2
**Clinical Microbiology Practicum III**
Students will spend 2 full-time weeks (40 hrs/wk) at the Wisconsin State Laboratory of Hygiene for public health training in mycobacteriology, sexually transmitted diseases, food-and-water-borne diseases, and community respiratory illness surveillance. Emphasis will be on prevention and control programs and outbreak responses currently in place at the Wisconsin Department of Health. Prerequisite: MIC 770 and MIC 780. Offered Fall, Winter, Spring, Summer.

MIC 799 Cr.1-15
**Research: Master's Thesis**
Independent research in microbiology on a problem selected for a thesis under the direction of an assigned faculty major adviser. For students following Plan A. Repeatable for credit - maximum 15; maximum six applicable to degree. Offered Fall, Winter, Spring, Summer.

**Modern Languages (MLG) - Graduate Courses**

Courses
MLG 455/555 Cr.1-6
**Foreign Language Program Development**
This course is designed for teachers or prospective teachers working toward teacher certification or re-certification in a second or third language and/or in ESL. Program topics include: grammar, conversation, civilization, literature and methods. Repeatable for credit - maximum 12. Prerequisite: acceptance of an approved program by department and permission of department chair. Offered Occasionally.

MLG 473/573 Cr.3
**Teaching World Languages: From Early Childhood to Early Adolescence**
Designed to prepare pre-service teachers to teach world languages to children in the birth to pre-puberty range; provides a basic understanding of classroom applications of second language acquisition and learning theories, teaching methods, approaches and techniques appropriate for these age levels, standards based assessment and lesson design, and curriculum development. Focus is on putting theory into practice through demonstration, micro-teaching, curriculum evaluation, materials development and unit lesson planning. (This course is intended for students seeking MC-EA world language certification.) Prerequisite: EDS 351 or EDS 402 or concurrent enrollment or consent of instructor. Offered Fall.

MLG 474/574 Cr.3
**Teaching World Languages: From Early Adolescence to Adolescence**
A study of how a foreign language is learned and acquired and what methods and techniques are effective with varying groups of learners. Focus is on putting theory into practice through demonstration, microteaching, curriculum evaluation, materials development and unit lesson planning. Prerequisite: EDS 351 or concurrent enrollment. Offered Spring.

**Music (MUS) - Graduate Courses**

Courses
MUS 499/699 Cr.1-3
**Special Topics in Music and Music Education**
Special topics in music and music education not covered by current courses taught in the music department. The particular topic selected to be determined by the music department according to the current need and interest. Repeatable for credit. Prerequisite: MUS 336 or consent of the department chair. Offered Occasionally.

**Occupational Therapy (OT) - Graduate Courses**
Courses

OT 515 Cr.3
Functional Neuroanatomy
This course will address the anatomical basis of neuroscience with emphasis on rehabilitation. Structure and physiological function of the central nervous system will be correlated for normal and abnormal processes. Patient examples and research literature will be utilized to foster appropriate clinical decision-making skills in students. Lect. 2, Lab. 2. Prerequisite: admission to graduate Occupational Therapy Program. Offered Spring.

OT 520 Cr.3
Introduction to Occupational Therapy
This course introduces the fundamentals of occupational therapy. Topics include an overview of the history of the occupational therapy profession, theoretical frameworks, the OT Program curriculum design, and contemporary occupational therapy practice. Lect. 6. Prerequisite: admission to graduate Occupational Therapy Program. Offered Summer.

OT 521 Cr.2
Professional Foundations of Practice
A series of learning experiences designed to support clinical practice in occupational therapy. Topics will include standards of occupational therapy practice, occupational therapy core values, ethics and ethical decision-making, professional behaviors and communication, the interview process as a basic tool for gathering data, the adaptation of the interview process to include various health traditions and cultures, the importance of the self-reflective process, and universal precautions and basic skills needed when working in a healthcare situation. Lect. 2, Lab. 4. Prerequisite: admission to graduate Occupational Therapy Program. Offered Summer.

OT 523 Cr.3
Human Physiology
A study of physiological systems of interest to therapeutic practice and the relationship of these systems to normal function. Prerequisite: admission to the OT/PTS/PAS Program. Offered Summer.

OT 524 Cr.5
Human Anatomy
Provides an in-depth understanding of the gross anatomy of the human body through lecture, laboratory experiences, audiovisual, computer and cadaver prosection and dissection. Systems included are musculoskeletal, neurological, and skeletal. Biomechanical function, topographic and clinical applications are emphasized. Clinical applications are discussed. Lect. 2, Lab. 4. Prerequisite: admission to graduate Occupational Therapy Program. Offered Fall.

OT 526 Cr.2
Critical Analysis of Human Movement: Development, Learning and Control
This course examines the development of movement and basic motor learning. Basic motor control theories will be compared and contrasted in relation to the development of postural foundations and movement. Motor control/learning theories will be discussed and rudimentarily applied as movement that is essential to occupational performance across the lifespan. Lect. 1, Lab. 2. Prerequisite: admission to graduate Occupational Therapy Program. Offered Fall.

OT 530 Cr.2
Occupational Performance Analysis
This course examines key concepts used in the description and analysis of occupational performance. The form, function, and meaning of occupations will be explored in relation to the areas of occupation, client factors, activity demands, contexts, performance skills, and performance patterns of persons, organizations, and populations. Activity analysis and occupational performance analysis will be discussed, analyzed, compared, and contrasted in relationship to individuals, groups, and populations. Activity analysis, occupational analysis, selection and grading/adapting of activity and occupations, compensatory techniques, and use of theory to guide clinical reasoning will be explored, discussed, and analyzed. Use of occupation as it relates to design and implementation of treatment with various populations in traditional and non-traditional practice setting will be explored. Prerequisite: concurrent enrollment in OT 531; admission to graduate Occupational Therapy Program. Offered Fall.

OT 531 Cr.1
Applied Occupational Performance Analysis
This course applies key concepts used in the occupational therapy clinical practice (occupation, Framework, theory, and documentation). Activities and occupations will be analyzed for self and others through case studies, observation of others, and self reflection. Activity analysis and occupational performance analysis will be completed in relationship to individuals, groups, and populations through the use of occupations with self, observation of others, and both written and video case studies. Application of activity analysis, occupational analysis, selection and grading/adapting of activity and occupations, compensatory techniques, teaching and learning, and use of theory to guide clinical reasoning will occur. Use of occupation as it relates to design and implementation of treatment with various populations in traditional and non-traditional practice setting will be applied. Prerequisite: concurrent enrollment in OT 530; admission to graduate Occupational Therapy Program. Offered Fall.

OT 544 Cr.1
Biomechanics and Kinesiology Applications in Occupational Therapy
This course will apply principles of biomechanics and kinesiology to the understanding and analysis of movement in relationship to occupational performance. This will include the study of structure and function of the skeletal, muscular and neuromuscular systems and their influences on normal and pathological motion and how this may impact occupational performance. This course will explore kinesiology considerations for specific musculoskeletal regions including the head, torso, upper and lower extremities and how these relate to commonly used therapeutic treatment techniques employed by occupational therapists. Students will explore research tools utilized in biomechanics and their application to a variety of movement based research questions. Lect. 1, Lab. 2. Prerequisite: concurrent enrollment in OT 545; admission to graduate Occupational Therapy Program. Offered Fall.
OT 545 Cr.1

Applied Biomechanics and Kinesiology in Occupational Therapy
This course will apply principles of biomechanics and kinesiology to the understanding and analysis of movement during occupational performance. This will include the applied study of structure and function of the skeletal, muscular and neuromuscular systems and their influences on normal and pathological motion and how this may impact occupational performance. This course will apply kinesiology considerations for specific musculoskeletal regions including the head, torso, upper and lower extremities and how this relates to commonly used therapeutic treatment techniques employed by occupational therapists. Students will practice using research tools typically utilized in biomechanics and their application to a variety of movement based research questions. Prerequisite: concurrent enrollment in OT 544; admission to graduate Occupational Therapy Program. Offered Fall.

OT 550 Cr.1

Scholarly Practice I: Assessment
This course covers psychometric principles of assessment, e.g., levels of measurement, reliability, validity, and standardized procedures. The need to use these principles to critique the clinical usefulness of assessment instruments used by occupational therapists will be emphasized. Additionally, ethical considerations, testing accommodations, and the role of occupational therapy assistants in the evaluation process will be presented. Prerequisite: concurrent enrollment in OT 551; admission to graduate Occupational Therapy Program. Offered Fall.

OT 551 Cr.1

Applied Scholarly Practice I: Assessment
Students will administer, score, interpret, and document several assessment instruments used by occupational therapists. Students will begin to develop their professional behavior by administering assessment instruments to preschool children and older adults. Prerequisite: admission to graduate Occupational Therapy Program. Offered Fall.

OT 570 Cr.1

Occupational Therapy Intervention: Group Dynamics
This course will provide students with a foundation in basic therapeutic communication skills. Models of group leadership used in occupational therapy treatment will be emphasized. Topics will include: basic styles of communication, stages of team building, group leadership in therapy, development of therapeutic use of self, conflict resolution, conflict negotiation, professional behaviors, supervision of occupational therapy staff and occupational therapy group models used in treatment. Prerequisite: concurrent enrollment in OT 571; admission to graduate Occupational Therapy Program. Offered Fall.

OT 571 Cr.1

Applied Occupational Therapy Intervention: Group Dynamics
This course will emphasis hands-on learning experiences to apply the lecture content from OT 570. Students will plan and implement a variety of client centered groups, based on occupational therapy frames of references and other common theories. Student’s observation skills will be enhanced through routine applied experiences both in classroom sessions and in the community. Methods and techniques for developing professional behaviors, giving/receiving feedback, and critiquing individual communication and leadership styles will be refined during this seminar experience. Prerequisite: concurrent enrollment in OT 570; admission to graduate Occupational Therapy Program. Offered Fall.

OT 573 Cr.1

Level 1 Fieldwork: Mental Illness
This mental health field experience is designed to provide an opportunity to practice occupational therapy interventions for individuals who have mental health disorders. Beginning professional abilities, observation and initial data gathering skills will be practiced. Fieldwork will be arranged by the occupational therapy fieldwork coordinator and supervised by instructional staff. Prerequisite: admission to graduate Occupational Therapy Program. Pass/Fail grading. Offered Spring.

OT/PTS 611 Cr.2

Pathophysiology
This course will provide the student with information about the pathophysiology of various organ systems and physiological control mechanisms as they pertain to the practice of physical therapy. Emphasis will be placed upon the ability of the student to perform differential diagnosis in a physical therapy setting and to determine when further diagnostics may be indicated. Patient problems will be utilized to allow students to practice differential diagnosis and problem solving. Prerequisite: admission to graduate Occupational Therapy Program or Physical Therapy Professional Program. (Cross-listed with OT/PTS; may only earn credit in one department.) Offered Spring.

OT 630 Cr.2

Occupational Therapy Practice: Wellness Perspectives
The relationship of health, prevention, and wellness will be examined from the perspective of occupation and lifestyle redesign. Alternative and complementary medicine/therapies from various cultures and perspectives, along with literature regarding the mind/body connection, will be critically examined in relation to the provision of occupational therapy services as they relate to occupational wellness. Injury prevention programs, Life Style Redesign, community needs assessment, and grant-writing to obtain funding also will be addressed. Prerequisite: admission to graduate Occupational Therapy Program. Offered Spring.

OT 640 Cr.1

Therapeutic Adaptations in Occupational Therapy
This course will develop the students’ ability to determine the need for and provide compensatory strategies for clients with physical and/or psychosocial dysfunction in different contexts. The student will design, fabricate, apply and train a client in the use of assistive technology. Assistive technologies, prosthetics, sensory aides, and wheelchair adaptations are addressed. State and federal regulations protecting various populations with dysfunction will be covered. Ergonomic and environmental modification principles will be used in home and community building assessment. Lab 2. Prerequisite: OT 530, OT 531; admission to graduate Occupational Therapy Program. Offered Fall.

OT 641 Cr.3

Health Care Systems
This course addresses the evolution of the health care industry. It will critically analyze from the perspectives of the consumer, provider, manager, and taxpayer, the greater social systems and trends that impact its present state, and include a comparison of the health care industry in other countries. Service provision will be examined from the standpoints of fiscal management, human resource management, and operations management. Advocacy and consultation, as a part of the change process, will be examined and practiced in the context of leadership in the OT profession and OT intervention contexts. Lect. 2, Disc. 1. Prerequisite: admission to graduate Occupational Therapy Program. Offered Spring.
OT 650 Cr.2

**Occupations and Interventions: Pediatrics I**

Content includes the child as an occupational being within contexts, e.g., the greater social/political context, typical play contexts, etc. The occupational development and roles of children ages 0 through 18 will be examined in relation to typical developmental milestones, the development of ADL’s, and the development of play. The application of occupational therapy principles (evaluation and intervention), and the use of clinical reasoning will be integrated within selected occupational therapy theories (sensorimotor processing, acquisitional, motor acquisitional, NDT, biomechanical, 4 Quadrant), which, in turn, will be integrated with developmental principles, occupations, and play. The effect of selected medical conditions (failure to thrive, developmental delay, febrile seizures, muscular dystrophy, Down Syndrome, spina bifida, cerebral palsy, etc.) on occupational performance in play and ADL’s will be covered as well. Prerequisite: concurrent enrollment in OT 651; admission to graduate Occupational Therapy Program. Offered Fall.

OT 651 Cr.1

**Applied Occupations and Interventions: Pediatrics I**

This course is designed to prepare students for their Peds Play Lab experience during the spring semester. Content and application will address play and playfulness (synthesis of content, assessment, OT theory, activity analysis, activity gradation, etc.), therapeutic use of self (modes of therapeutic interaction, verbal and non-verbal, physical, etc.), and documentation (deconstruction of test scores, synthesis of scores, clinical observations, client information, etc., for interpretation and recommendations). Activity analysis as it relates to a pediatric population, and the construction of playful, therapeutic activities will be emphasized. Prerequisite: concurrent enrollment in OT 650; admission to graduate Occupational Therapy Program. Offered Fall.

OT 660 Cr.2

**Occupational Performance: Mental Illness**

The focus of this course is to instruct students on occupational performance dysfunction that may occur when a person struggles with a chronic and persistent mental illness. Students will learn the occupational therapy domain and process including: evaluation, intervention, discharge planning and outcomes specifically for this population. Areas of emerging markets as well as common areas of mental health occupational therapy will be explored. Best practice and evidence used to by occupational therapists will be highlighted. Prerequisite: concurrent enrollment in OT 661; admission to graduate Occupational Therapy Program. Offered Spring.

OT 661 Cr.1

**Applied Occupational Performance: Mental Illness**

This hands-on experiential learning course will provide an opportunity for students to practice the administration of screenings, assessments, and evaluations commonly used in occupational therapy practice. Students will learn to design and lead therapy sessions and select effective interventions for persons with a variety of severe and persistent mental illness and cognitive disabilities. Prerequisite: concurrent enrollment in OT 660; admission to graduate Occupational Therapy Program. Offered Spring.

OT 670 Cr.2

**Occupational Performance: Physical Dysfunction I**

The effects of acute and chronic disability on occupational performance will be explored in the context of the adult rehabilitation patient with orthopedic conditions from diverse backgrounds. Evaluation and treatment of the adult individual with orthopedic rehabilitative needs will be emphasized. Prerequisite: OT 530, OT 531, OT 550, OT 551; concurrent enrollment in OT 671; admission to graduate Occupational Therapy Program. Offered Spring.

OT 671 Cr.1

**Applied Occupational Performance: Physical Dysfunction I**

This course provides hands on applied learning experiences allowing students the opportunity to practice assessment tools and treatment intervention methods typically used with persons with orthopedic problems. Prerequisite: OT 530, OT 531, OT 550, OT 551; concurrent enrollment in OT 670; admission to graduate Occupational Therapy Program. Offered Spring.

OT 700 Cr.1

**Physical Agent Modalities**

This course will develop the student’s ability to use superficial and deep thermal/electrotherapeutic physical agent modalities as part of an occupational therapy treatment plan. Students will develop skills in safe and effective applications of these modalities as well as understanding the underlying principles, indications and precautions/contradictions for these modalities. Students will learn how to document the use of modalities and how to complete client education regarding physical agent modalities. In addition students will develop an understanding of practice guidelines regarding use of modalities in occupational therapy. Lab 2. Prerequisite: OT 524, OT 670, OT 671; admission to graduate Occupational Therapy Program. Offered Summer.

OT 720 Cr.1-3

**Selected Topics in Occupational Therapy**

This course offers in-depth study of particular concepts, clinical specialties, and/or non-traditional practice areas in occupational therapy. Topics are selected by the instructor and/or as developed by student/faculty dialogue to meet special interests and needs. Topics are relevant to occupational therapy education, and are not found elsewhere in the university curriculum. Repeatable for credit - maximum six. Departmental option for pass/fail grading. Prerequisite: admission to graduate Occupational Therapy Program. Offered Occasionally.

OT 723 Cr.1-2

**International Perspectives in Occupational Therapy**

This course offers in-depth study in the area of international perspectives in occupational therapy, specifically similarities and differences in OT practice between the US and Scotland. This course will be offered collaboratively between the occupational therapy programs at UW-L and Robert Gordon University in Aberdeen, Scotland. Students from both universities will have two options for participation in this course. The travel option will consist of coursework and an intensive one week experience abroad. During this one week experience, students will attend select OT classes at the host university and participate in learning experiences/job shadowing in the host community. The host option will consist of coursework and hosting an exchange student from the other university. Following the travel/host portion of the course, all students will participate in videoconference sessions to discuss similarities and differences in occupational therapy practice and consider how cultural factors (governmental policies and funding sources) influence OT practice. Students will be responsible for travel and living expenses while abroad. Repeatable for credit – maximum two. Prerequisite: 1st or 2nd year in Occupational Therapy Program. Pass/ Fail grading. Offered Spring.
OT 726 Cr.1
Fieldwork Seminar
This course will address critical issues directly related to professional development, fieldwork preparation, and licensure and certification prior to beginning Level II fieldwork. Strategies for successful Level II fieldwork experience, goal setting, and continued competencies are highlighted. Professional skills such as leadership, quality improvement, and professional advocacy will be addressed. Students will, additionally, be challenged to create a professional development plan. Teaching methods in this seminar format course will include: small group discussion, experiential learning groups and group projects. Prerequisite: completion of Level I Fieldwork requirements and all didactic courses required through Fall II; admission to graduate Occupational Therapy Program. Offered Spring.

OT 730 Cr.2
Occupational Performance: Physical Dysfunction II
The effects of acute and chronic disability on occupational performance will be explored in the context of the adult rehabilitation patient of diverse backgrounds with neurological conditions. Evaluation and treatment of the adult individual with neurological rehabilitative needs will be emphasized. Prerequisite: concurrent enrollment in OT 731; admission to graduate Occupational Therapy Program. Offered Fall.

OT 731 Cr.1
Applied Occupational Performance: Physical Dysfunction II
This course provides hands on applied learning experiences allowing students the opportunity to practice occupational therapy assessment tools and treatment intervention methods typically used with persons with neurological problems. Prerequisite: concurrent enrollment in OT 730; admission to graduate Occupational Therapy Program. Offered Fall.

OT 740 Cr.3
Occupations and Interventions: Pediatrics II
This course is the second unit in a two-semester sequence of the study of pediatric population. Content emphasized in the Lecture course includes the child as an occupational being within contexts, e.g., the greater social/political context, typical social contexts for play/interaction, educational contexts, family contexts, and practice contexts. The occupational development and roles of children ages 0 through 18 will be examined in relation to typical psychosocial development, social participation, and educational performance. Other content pertains to visual perceptual development, and fine motor/ handwriting development. The application of OT principles (evaluation and intervention), and the use of clinical reasoning will be integrated within selected frames of reference (visual information analysis, psychosocial, coping, social participation, and sensory processing), which, in turn, will be integrated with developmental principles and play. The effect of selected medical conditions (including but not limited to learning disorders, emotional behavioral disorders, autism, and visual/auditory disorders) will be examined in relation to occupational performance. Prerequisite: OT 650, OT 651; concurrent enrollment in OT 741; admission to graduate Occupational Therapy Program. Offered Spring.

OT 741 Cr.1
Applied Occupational and Interventions: Pediatrics II
OT 740 and OT 741 are the second courses in a two-semester sequence of the study of occupational therapy as it applies to the pediatric population. OT 741 involves direct interaction with children from the community in the context of a play laboratory. Students will be assigned to a small group, which will then play with an assigned client/family. The purpose of the lab is to develop therapeutic use of self in relation to pediatric clients, including skills in the realms of play, communication, and individualized intervention activity development. As part of the experience, students will be responsible for an assessment with report, daily lesson plans, daily documentation, and a summary report at the semester’s end. Students will be required to synthesize general activity analysis, individualized activity analysis, clinical reasoning, and activity gradation during each session they meet with their client. Prerequisite: concurrent enrollment in OT 740; admission to graduate Occupational Therapy Program. Offered Spring.

OT 750 Cr.2
Scholarly Practice II: Occupational Therapy Research
This course is the second in the series of scholarly practice courses. It is designed to help the students become familiar with research methodologies used in occupational therapy and to gain experience in selected steps of the research process. Topics covered include reading a scholarly article, literature searching strategies, research methodologies (single-subject, correlation, research, descriptive, qualitative, etc.), principles of ethical research, and application/ interpretation of statistical data. Prerequisite: concurrent enrollment in OT 751; admission to graduate Occupational Therapy Program. Offered Spring.

OT 751 Cr.1
Applied Scholarly Practice II: Occupational Therapy Research
This discussion group applies the concepts presented in OT 750 through reading, analyzing, and discussing scholarly literature. Students will read assigned scientific literature, critique using a given format, come prepared to discuss with peers, and facilitate group. Prerequisite: concurrent enrollment in OT 750; admission to graduate Occupational Therapy Program. Offered Spring.

OT 760 Cr.3
Scholarly Practice III: Research Seminar
This course is the third in a series of five Scholarly Practice courses. It analyzes the similarities and differences between the inquiry process and practice, and the influence of context on the data gathering process. Students participate in beginning level data collection and analysis in both qualitative and quantitative paradigms of inquiry, including the use of SPSS. Students will write and share their results in paper and poster formats. Lect. 2, Lab. 1. Prerequisite: OT 550, OT 551, OT 750, OT 751; admission to graduate Occupational Therapy Program. Offered Summer.

OT 770 Cr.2
Scholarly Practice IV: Evidence-Based Practice
This course is the fourth in the series of scholarly practice courses. This course will introduce students to concepts of occupational therapy evidence-based clinical practice. It includes application and comparison of several rubrics for evaluating levels of evidence, searching strategies for locating completed reviews, and participation in evidence-based reviews of the literature. Students will further develop expertise at reading professional literature and scholarly writing in this course. Prerequisite: admission to graduate Occupational Therapy Program. Offered Fall.
OT 775 Cr.1
Critical Analysis of Practice
This is the first of a two-course experience with problem-based learning. Students will work in small groups to process a series of virtual and real problems. These cases will be typical to occupational therapy practice and will require synthesis of material from several courses. Problems may relate to the OT process, ethical issues, supervision, etc. All cases will be written to develop critical thinking and/or clinical reasoning skills that will be required of occupational therapists practicing in today’s health care arena. Lab. 2. Repeatable for credit – maximum two. Prerequisite: concurrent enrollment in OT 777; admission to graduate Occupational Therapy Program. Offered Fall, Spring.

OT 776 Cr.2
Occupations and Interventions: Older Adult
Occupational performance in the aging population will be explored with emphasis on the impact of disease or injury in the older adult population from diverse backgrounds. Specific focus will be on analysis of the socio-cultural, environmental and personal life roles of the elderly as well as those disease/dysfunction processes that frequently impact this population. Prerequisite: concurrent enrollment in OT 777; admission to graduate Occupational Therapy Program. Offered Fall.

OT 777 Cr.1
Applied Occupations and Interventions: Older Adult
This course provides hands on applied learning experiences allowing students the opportunity to practice the occupational therapy process of observation, evaluation, analysis and treatment of the older adult population. Prerequisite: concurrent enrollment in OT 777; admission to graduate Occupational Therapy Program. Offered Fall.

OT 778 Cr.2
Impact of Psychosocial Issues on Occupation
During the 2-hour lecture, a variety of psychosocial issues that may affect the therapeutic relationship and the client’s occupational performance, e.g., self-concept, motivation, coping strategies, resiliency, body image, sexuality, and culture, will be explored and problems that may occur during therapy, e.g., conflicts and empathic breaks, will be addressed. Additionally, students will have the opportunity to explore their own values and beliefs and develop an understanding of how these may affect the therapeutic relationship. Students will compare and contrast national and international theories and models of occupational therapy (e.g., MOHO, PEOP, the Kawa Way) and discuss how clinicians might use this information. Prerequisite: concurrent enrollment in OT 779; admission to graduate Occupational Therapy Program. Offered Fall.

OT 779 Cr.1
Applied Impact of Psychosocial Issues on Occupation
Professional behaviors needed to develop effective therapeutic relationships, e.g., employing active listening, developing rapport, repairing empathic breaks, and effective client teaching strategies will be practiced during the 2-hour applied lab. The professor will view and critique videotaped clinical sessions from the adult lab with the students and work on strategies to integrate the information presented in lecture and the applied lab into their clinical sessions. Prerequisite: concurrent enrollment in OT 778; admission to graduate Occupational Therapy Program. Offered Fall.

OT 780 Cr.1
Scholarly Practice V: Scientific Writing
This is the final course in the five-course sequence of scholarly practice. Principles of scientific and grant writing, guidelines for APA format and information on searching for grants will be presented. Prerequisite: concurrent enrollment in OT 781; admission to graduate Occupational Therapy Program. Offered Spring.

OT 781 Cr.1
Applied Scholarly Practice V: Scientific Writing
The applied seminar will follow a writers’ workshop format: the students will review and give feedback to each other and receive feedback from faculty on a variety of written projects. Prerequisite: concurrent enrollment in OT 780; admission to graduate Occupational Therapy Program. Offered Spring.

OT 785 Cr.1
Adult Clinical Practice
This course is a one hour lecture that includes close examination of the Occupational Therapy Process. Using occupational therapy theories, research, and knowledge from previous courses students will work with course instructor and other students to develop an assessment plan, treatment plans, recertification, and discharge planning with a community volunteer. Students will develop and provide occupational therapy in-services to mimic treatment rounds and continuing education development in a clinical setting. Students will discuss and examine occupation, roles, and participation in relation to occupational performance. Medical conditions and their influence on health, wellness, and participation will be examined. Prerequisite: concurrent enrollment in OT 786; admission to graduate Occupational Therapy Program. Offered Spring.

OT 786 Cr.1
Applied Adult Clinical Practice
This course is a two hour seminar that includes implementation of the Occupational Therapy Process and supervised hands on experience of adult clinical practice. Using occupational therapy theories, research, and knowledge from previous courses students will work with course instructor and other students to implement an assessment plan, treatment plans, recertification, and discharge planning with a community volunteer. Prerequisite: concurrent enrollment in OT 785; admission to graduate Occupational Therapy Program. Offered Spring.

OT 790 Cr.1
Level I Fieldwork: Physical Dysfunction
This 30-hour fieldwork will provide an opportunity for students to observe and practice occupational therapy in a clinical setting with a variety of diverse populations. Professional abilities including cultural sensitivity, the use of occupation within a clinical setting, preliminary documentation and assessment skills will be experienced. Fieldwork will be arranged by the occupational therapy academic fieldwork coordinator and supervised by clinical fieldwork educators. Prerequisite: admission to graduate Occupational Therapy Program. Pass/Fail grading. Offered Fall.

OT 791 Cr.1
Level I Fieldwork: Pediatrics
This course is designed to give students an opportunity to observe and participate in the OT process as much as possible in a pediatric setting. Students will be expected to practice professional behaviors at all times. On a level that is appropriate to their setting and in accordance with their clinical supervisor, students will be expected to participate in evaluation, treatment planning, treatment implementation, and beginning documentation as it relates to the population and context in which they are assigned. Sustained observation, reasoning in action, and therapeutic use of self will be practiced. 40 hours. Prerequisite: OT 650, OT 651; admission to graduate Occupational Therapy Program. Pass/Fail grading. Offered Winter.
OT 795 Cr.6  
**Level II Fieldwork**  
The Level II Fieldwork experience provides the student with a 12-week clinical placement in a practice setting under the supervision of an approved occupational therapy clinical fieldwork educator. Students will practice occupational therapy assessment, interventions, measuring outcomes, and documentation. This course provides opportunities to apply didactic learning in clinical practice. Students are required to complete six months of full time fieldwork within a 24 month period. This 12-week course is repeated one time for a total of 24 weeks. Repeatable for credit – maximum 12. Prerequisite: admission to graduate Occupational Therapy Program. Pass/Fail grading. Offered Fall, Summer.

OT 798 Cr.1-6  
**Independent Study in Occupational Therapy**  
Independent, in-depth study of some specific problem or area in occupational therapy. This course shall be taken under the direction and supervision of a member of the occupational therapy faculty. Repeatable for credit – maximum six. Prerequisite: admission to graduate Occupational Therapy Program. Offered Occasionally.

OT 799 Cr.1-4  
**Research: Master’s Thesis**  
An independent research project is to be selected and executed under the direction of an OT department faculty member by those students electing to pursue a thesis track. The project may be in any area related to occupational therapy. Repeatable for credit – minimum four credits, maximum six. Prerequisite: OT 760; admission to graduate Occupational Therapy Program. Pass/Fail grading. Offered Occasionally.

**Physical Therapy Studies (PTS) - Graduate Courses**

**Courses**

**BIO/PAS/PTS 509 Cr.3  
Human Gross Anatomy**  
A comprehensive consideration of human gross anatomy. Systems included are musculoskeletal, neurological, urogenital, gastrointestinal and cardiopulmonary. Function, development, and topographic correlations are emphasized as a means toward evaluating clinical applications. Biomechanical function, topographic and clinical applications are emphasized. Prerequisite: admission to the Biology CRNA Program, PAS Program, or DPT Professional Program; concurrent enrollment in BIO/PAS/PTS 510 under same department. (Cross-listed with BIO/PAS/PTS; may only earn one credit in one department.) Offered Summer.

**BIO/PAS/PTS 510 Cr.3  
Applied Human Gross Anatomy**  
A comprehensive consideration of human anatomy including both neuro-musculoskeletal components and internal organ systems. Systems included are musculoskeletal, neurological, urogenital, gastrointestinal, and cardiopulmonary. The course provides an in-depth understanding of the gross anatomy of the human body through regional dissection. This understanding will then be demonstrated through the application of anatomy within clinical presentations. Prerequisite: admission to the Biology CRNA Program, PAS Program, or DPT Professional Program; concurrent enrollment in BIO/PAS/PTS 509 under same department. (Cross-listed with BIO/PAS/PTS; may only earn credit in one department.) Offered Summer.

**PTS 512 Cr.4  
Medical Physiology**  
Emphasis upon physiological principles directly related to rehabilitation in a physical therapy practice setting and interaction of physiological systems during normal activities and after injury or disease. PTS students will be enrolled in a one hour per week discussion section. Prerequisite: admission to DPT Professional Program. Offered Summer.

**PTS 516 Cr.1  
Physiological Regulation of Exertion and Disease**  
This course is designed to provide the student with an overview of the physiological basis of activity. The course emphasizes the various changes brought on by exercise to the normal and abnormal physiological systems. Prerequisite: concurrent enrollment in PTS 517; admission to DPT Professional Program. Offered Fall.

**PTS 517 Cr.1  
Applied Physiological Regulation of Exertion and Disease**  
This course is designed to provide the student with an opportunity to apply the physiological principles in the evaluation of health and performance related fitness. Methods and protocols appropriate for screening for physical activity, health appraisal, assessment, and exercise prescription for apparently healthy individuals or those have controlled disease. Prerequisite: concurrent enrollment in PTS 516; admission to DPT Professional Program. Offered Fall.

**PTS 518 Cr.1  
Motor Control, Motor Learning, and Motor Development**  
This course will provide a theoretical and research evidence basis for normal movement via motor control, motor learning, and motor development literature. Students will formulate a basic understanding of what is known about typical control, learning and development of movement and how available knowledge applies to motor re-learning and control after lesion or injury. These concepts will be discussed with respect to multiple patient populations and atypical movement will be introduced. Prerequisite: concurrent enrollment in PTS 519; admission to DPT Professional Program. Offered Spring.

**PTS 519 Cr.1  
Applied Motor Control, Motor Learning, and Motor Development**  
This course will explore principles of motor behavior within the context of interactive labs. Principles of motor behavior (motor control, motor learning, and motor development) will be applied to both typical and atypical populations. Students will practice applying what is known about control, learning and development of movement to motor relearning and control after lesion or injury. These concepts will be discussed with respect to multiple patient populations and atypical movement will be introduced. Prerequisite: concurrent enrollment in PTS 518; admission to DPT Professional Program. Offered Spring.

**PTS 520 Cr.1  
Introduction to Physical Therapy Practice and Evaluation Techniques**  
This course is designed to expose the student to the multiple roles and professional behavior expectations of the physical therapist and gain insight into the importance of these roles in the context of today’s health care system. This course will also introduce the student to the role of patient examination with emphasis on tests and measures related to palpation, goniometry and muscle strength testing. This course is concurrently taught with anatomy so students may apply knowledge of human anatomy to a clinical environment. Prerequisite: concurrent enrollment in PTS 521; admission to DPT Professional Program. Offered Summer.
PTS 521 Cr.2  
**Applied Introduction to Physical Therapy Practice and Evaluation Techniques**  
This course is taken concurrently with "Introduction to Physical Therapy Practice & Evaluation Techniques" (PTS 520). The applied experiences are designed to provide an opportunity to practice physical therapy examination with emphasis on tests and measures related to palpation, goniometry, and muscle strength testing. Prerequisite: concurrent enrollment in PTS 520; admission to DPT Professional Program. Offered Fall.

PTS 523 Cr.2  
**Physical Agents**  
This course provides an understanding of the physiological basis, scientific rationale for, and clinical application of, thermal, electrophysiology/electrotherapy, and electromagnetic physical agents. Prerequisite: concurrent enrollment in PTS 523; admission to DPT Professional Program. Offered Fall.

PTS 524 Cr.1  
**Biomechanics and Kinesiology of Movement**  
The principles and theories of the biomechanics of human motion will be presented to develop analytical skills needed to assess normal and abnormal movement. Prerequisite: concurrent enrollment in PTS 524; admission to DPT Professional Program. Offered Fall.

PTS 525 Cr.2  
**Applied Biomechanics and Kinesiology of Movement**  
This seminar course provides introductory activities used in the development of student analytical skills to enable the assessment of normal and abnormal movement from a biomechanical perspective. Prerequisite: concurrent enrollment in PTS 525; admission to DPT Professional Program. Offered Fall.

PTS 526 Cr.1  
**Foundations of the Physical Therapy Examination**  
This course is designed to instruct future clinicians on how to implement the examination/evaluation component of the Patient/Client Management Model of Physical Therapy. Prerequisite: concurrent enrollment in PTS 526; admission to DPT Professional Program. Offered Fall.

PTS 527 Cr.3  
**Applied Foundations of the Physical Therapy Examination**  
This course will emphasize the skills of obtaining a client history, performing a systems review and selecting and administering appropriate tests and measures that have been presented in "Foundations of the Physical Therapy Examination" (PTS 527). Prerequisite: concurrent enrollment in PTS 527; admission to DPT Professional Program. Offered Fall.

PTS 528 Cr.2  
**Functional Neuroanatomy**  
This course will provide a detailed examination of the gross components associated with the central nervous system. This examination will be correlated with a review of the peripheral nervous system. Together, this information will be used to provide functional considerations of the nervous system that will then be used to explore the foundational basis for clinical applications in neurologic evaluation and interpretation. Prerequisite: concurrent enrollment in PTS 536; admission to DPT Professional Program. Offered Fall, Spring.

PTS 535 Cr.2  
**Research and Applied Statistics**  
Specific quantitative research designs and statistics with an emphasis on clinical research is the focus of this course. The course will discuss methods for critically evaluating the literature based on the study design and statistical findings as well as their application to clinical practice. Students will build on course content developed in PTS 545. Students may not earn credit in both PTS 542 and PHY 423. Prerequisite: admission to DPT Professional Program. Offered Summer.

PTS 543 Cr.1  
**Instrumentation for Human Movement**  
Development of knowledge and skills necessary for interpretation of human movement data pervasive in contemporary physical therapy literature. Topics will include methods of data acquisition using a force platform, pressure platform, pressure insoles and mats, video based motion analysis, posturography and electromyography (EMG) as well as methods of processing, analyzing, and interpreting data. Prerequisite: concurrent enrollment in PTS 544; admission to DPT Professional Program. Offered Summer.

PTS 544 Cr.1  
**Applied Instrumentation for Human Movement**  
Development of practical skills and experience in collecting human movement data with instrumentation. Data analysis and written reports associated with the analysis of movement will be required. Prerequisite: concurrent enrollment in PTS 543; admission to DPT Professional Program. Offered Summer.

PTS 545 Cr.1  
**Foundations of Clinical Research**  
Research methodology with an emphasis on clinical research is the focus of this course. Methods for critically evaluating the literature, literature search strategies, ethics in research, issues of control, measurement and research design will be discussed. Prerequisite: concurrent enrollment in PTS 546; admission to DPT Professional Program. Offered Spring.

PTS 546 Cr.1  
**Applied Foundations of Clinical Research**  
Students will identify a gap in our knowledge base using primary literature and formulate a specific research question that could be answered using available resources. Students will develop a research proposal and oral defense of their research question, proposed methods, and expected clinical relevance. Prerequisite: concurrent enrollment in PTS 545; admission to DPT Professional Program. Offered Spring.
Pathophysiology
This course will provide the student with information about the pathophysiology of various organ systems and physiological control mechanisms as they pertain to the practice of physical therapy. Emphasis will be placed upon the ability of the student to perform differential diagnosis in a physical therapy setting and to determine when further diagnostics may be indicated. Patient problems will be utilized to allow students to practice differential diagnosis and problem solving. Prerequisite: admission to graduate Occupational Therapy Program or Physical Therapy Professional Program. (Cross-listed with OT/PTS; may only earn credit in one department.) Offered Spring.

PTS 619 Cr.2
Early Intervention and Acute Care Physical Therapy
This course teaches the principles of care and therapeutic interventions used to treat patients during acute care and early intervention. Principles relate to healing status, prevention of injury, and rehabilitation for functional mobility. Content will focus on health care communication, early care techniques, and durable medical equipment to support mobility in the inpatient environment, home, and community. Prerequisite: concurrent enrollment in PTS 620; admission to DPT Professional Program. Offered Spring.

PTS 620 Cr.1
Applied Early Intervention and Acute Care Physical Therapy
This course will emphasize skill development to support physical therapy intervention targeting Early Intervention and Acute Care. Students will practice health care communication techniques, the prescription and fit of durable medical equipment, and therapeutic techniques to support rehabilitation of functional mobility. Prerequisite: concurrent enrollment in PTS 620; admission to DPT Professional Program. Offered Spring.

PTS 623 Cr.1
Integument System
In this course, the student will build on basic skin anatomy, physiologic basis of skin nourishment and repair, and biomechanical stresses that can impact on the skin. Factors predisposing the skin to breakdown will be presented as will preventive measures where appropriate. The student will learn specific examination and intervention techniques utilized in treating specific integumentary conditions including burns, wound care, and amputations. Prerequisite: concurrent enrollment in PTS 624; admission to DPT Professional Program. Offered Summer.

PTS 624 Cr.1
Applied Integument System
In this course, the student will build on basic skin anatomy, physiologic basis of skin nourishment and repair, and biomechanical stresses that can impact on the skin. Factors predisposing the skin to breakdown will be presented as will preventive measures where appropriate. The student will learn specific examination and intervention techniques utilized in treating specific integumentary conditions including burns, wound care, and amputations. Prerequisite: concurrent enrollment in PTS 623; admission to DPT Professional Program. Offered Summer.

PTS 625 Cr.2
Physical Therapy Management of the Cardiovascular/Pulmonary System
This course focuses on normal and abnormal structure and function of the cardiovascular, pulmonary and lymphatic systems with emphasis on medical and other therapeutic strategies. Emphasis is placed on preventative measures and interventions for cardiac and pulmonary patients. Students evaluate current literature to support evidence-based practice and use a problem-solving approach to evaluate and manage patients. Prerequisite: concurrent enrollment in PTS 626; admission to DPT Professional Program. Offered Spring.

PTS 626 Cr.2
Applied Physical Therapy Management of the Cardiovascular/Pulmonary System
This course is taken concurrently with "Physical Therapy Management of the Cardiovascular/Pulmonary System" (PTS 625). The applied experiences are designed to provide an opportunity to practice examinations, evaluations, and interventions from cardiovascular, pulmonary and lymphatic cases and demonstrate psychomotor proficiency in each procedure. In addition, during this applied seminar the students are expected to integrate and synthesize information from a variety of problem solving experiences. Prerequisite: concurrent enrollment in PTS 625; admission to DPT Professional Program. Offered Spring.

PTS 627 Cr.1
Therapeutic Exercise and Manual Therapy
This course teaches principles of intervention techniques used to treat patients following injury or illness. Content will focus on techniques of manual therapy, flexibility, strength and power training and functional recovery. Prerequisite: concurrent enrollment in PTS 627; admission to DPT Professional Program. Offered Spring.

PTS 628 Cr.1
Applied Therapeutic Exercise and Manual Therapy
This course will emphasize the psychomotor skills utilized to perform the material presented in "Therapeutic Exercise and Manual Therapy" (PTS 627). Prerequisite: concurrent enrollment in PTS 627; admission to DPT Professional Program. Offered Spring.

PTS 631 Cr.2
Professionalism and the Ethos of Care
Students will explore the ethics of physical therapy practice, the role of professional practice. Students will gain experience with medical chart reviews, taking subjective patient histories, and exploring the role of a physical therapist within the health care team. Patient population will vary according to clinical setting where student is assigned. Prerequisite: admission to DPT Professional Program. Offered Fall, Spring.

PTS 651 Cr.1
Fieldwork: Introduction to Clinical Learning
A clinically based learning experience with an emphasis on practicing recently learned clinical skills on a patient population. Students will gain experience with medical chart reviews, taking subjective patient histories, and exploring the role of a physical therapist within the health care team. Patient population will vary according to clinical setting where student is assigned. Prerequisite: admission to DPT Professional Program. Pass/Fail grading. Offered Winter.

PTS 700 Cr.1-3
Selected Topics in Physical Therapy
This course offers in-depth study of particular concepts, clinical specialties, and/or non-traditional practice areas in physical therapy. Topics are selected by the instructor and/or as developed by student/faculty dialogue to meet special interests and needs. Topics are relevant to physical therapy education, and are not found elsewhere in the university curriculum. Repeatable for credit - maximum six. Prerequisite: admission to DPT Professional Program. Pass/Fail grading. Offered Fall, Spring.
PTS 701 Cr.1
**Applied Adult Clinical Practice**
This course provides the students with supervised hands-on clinical applications working with adults with impairments and movement dysfunctions. Students will incorporate theory, evidence, foundational science, and clinical skills under the supervision of a physical therapist. Repeatable for credit - maximum two. Prerequisite: PTS 751; admission to DPT Professional Program. Pass/Fail grading. Offered Fall, Spring.

PTS 702 Cr.2
**Advanced Manual Therapy**
This course will focus on the principles and techniques necessary to integrate all aspects of the patient client management model (including examination, assessment, prognosis, intervention) with specific attention to how manual therapy techniques may be utilized to enhance treatment outcomes for patients with musculoskeletal conditions. The course will also emphasize the instruction and implementation of the psychomotor skills needed to perform evidence-base manual therapy skills. The topics of this class will build upon the foundation of material already presented in the other musculoskeletal courses sequenced in the curriculum. Prerequisite: admission to DPT Professional Program. Pass/Fail grading. Offered Spring.

PTS 703 Cr.1
**Clinical Anatomy Review**
This course will provide a review of neuromusculoskeletal anatomy that would be useful to the new or practicing clinician. Specific attention will be paid to an anatomical examination of diagnostic and therapeutic procedures. The topics of this class will build upon the foundation of anatomical and clinical courses from discipline specific curriculum. Prerequisite: admission to DPT, OT, or PAS Program; or health career professional. Pass/Fail grading. Offered Spring.

PTS 709 Cr.1
**Health & Wellness in Physical Therapy Practice**
In this course students will focus on the role of the physical therapist in promoting principles of health and wellness for the purpose of risk identification and fitness promotion for individuals, groups, and communities throughout the lifespan by utilizing educational and prevention programs. Issues of health behavior, community access and efficacy of individual and group programs, and the development of health promotion programs will be explored. Prerequisite: admission to DPT Professional Program. Offered Fall.

PTS 710 Cr.1
**Applied Health and Wellness in Physical Therapy Practice**
In this course, students will implement a community service learning project to promote health and wellness for the purpose of risk identification and fitness promotion for individuals, groups, and/or communities. Outcomes of the program will be assessed and presented. Prerequisite: PTS 709; admission to DPT Professional Program. Offered Spring.

PTS 711 Cr.2
**Pharmacology**
This course is designed to provide coverage of typical pharmacologic agents encountered in both inpatient and outpatient rehabilitation settings. Content includes pharmacodynamics, pharmacokinetics, biotransformation of drugs, and a consideration of the clinical application for a variety of classes of drugs. Prerequisite: admission to DPT Professional Program. Offered Fall.

PTS 712 Cr.1
**Clinical Radiology**
This course introduces students to the different modalities used in clinical radiography and the rationale for using one or more modalities when making an appropriate diagnosis. Students will be able to better comprehend radiographic anatomy in a manner relevant to diagnosis and treatment. Prerequisite: admission to DPT Professional Program. Offered Fall.

PTS 715 Cr.2
**Musculoskeletal Evaluation and Treatment: Lower Extremity**
This course will emphasize the implementation of the patient/client management model in the realm of musculoskeletal physical therapy of the lower extremity. Prerequisite: concurrent enrollment in PTS 716; admission to DPT Professional Program. Offered Fall.

PTS 716 Cr.1
**Applied Musculoskeletal Evaluation and Treatment: Lower Extremity**
This course will emphasize the clinical skills included in the patient/client management model and application of the lecture material presented in "Musculoskeletal Examination and Treatment: Lower Extremity" (PTS 715). Prerequisite: concurrent enrollment in PTS 715; admission to DPT Professional Program. Offered Fall.

PTS 717 Cr.1
**Clinical Teaching**
Explores the knowledge and skills required by physical therapists to educate patients, family members, other health care providers, colleagues and future students. The role of a physical therapist as an educator will be thoroughly explored. The importance of becoming a lifelong learner will also be addressed. Prerequisite: concurrent enrollment in PTS 718; admission to DPT Professional Program. Offered Fall.

PTS 718 Cr.1
**Applied Clinical Teaching**
Students will apply the knowledge and skills related to education of patients, family members, colleagues, other health care providers, and future students as discussed in the lecture portion of the course. The role of a physical therapist as an educator will be thoroughly explored. Prerequisite: concurrent enrollment in PTS 717; admission to DPT Professional Program. Offered Fall.

PTS 728 Cr.2
**Musculoskeletal Evaluation and Treatment: Spine**
This course will emphasize the implementation of the patient/client management model in the realm of musculoskeletal physical therapy of the spine. Prerequisite: concurrent enrollment in PTS 729; admission to DPT Professional Program. Offered Summer.

PTS 729 Cr.1
**Applied Musculoskeletal Evaluation and Treatment: Spine**
This course will emphasize the psychomotor skills included in the patient/client management model and utilization of material presented in "Musculoskeletal Examination and Treatment: Spine" (PTS 728). Prerequisite: concurrent enrollment in PTS 728; admission to DPT Professional Program. Offered Summer.

PTS 730 Cr.2
**Pediatric Neurorehabilitative Physical Therapy**
In this course, the student will apply basic knowledge of motor control, motor learning, and motor development, neuroanatomy and neurophysiology, examination and intervention techniques to a child with a long-term disability. Examination and intervention tools and techniques used for adults and children with neurological disabilities will be compared and contrasted. Students will learn how to modify examination and interventions to match a child's developmental level. Prerequisite: concurrent enrollment in PTS 731; admission to DPT Professional Program. Offered Spring.
PTS 731 Cr.2  
**Applied Pediatric Neurorehabilitative Physical Therapy**  
In this course, the student will utilize biomechanical principles, motor learning, teaching and practice of motor skills to adapt ecologically valid intervention techniques to children with long-term disabilities. Examination and intervention tools and techniques used for adults and children with neurological disabilities will be compared and contrasted. Students will learn and practice modifying examination and interventions to match a child’s developmental level. Prerequisite: concurrent enrollment in PTS 730; admission to DPT Professional Program. Offered Spring.

PTS 733 Cr.3  
**Health Care Systems & Administration**  
Primary emphasis of this course is to provide physical therapy students with practice management skills in the context of the U.S. health care system and an autonomous practice environment. Topics of study will include characteristics of the global and U.S. health care systems, reimbursement methods and insurance models, legal considerations, compliance regulations, fiscal management, marketing and development of professional referral relationships and development of business plans. Prerequisite: admission to DPT Professional Program. Offered Spring.

PTS 735 Cr.2  
**Adult Neurorehabilitative Physical Therapy**  
The course will emphasize the integration of neuroanatomy, neurophysiology, motor control, motor learning, and the physical therapy management of adults with neuromuscular disorders. Students will assess and integrate recommendations and evidence for the principles and practices of neurorehabilitation physical therapy. Prerequisite: concurrent enrollment in PTS 736; admission to DPT Professional Program. Offered Fall.

PTS 736 Cr.2  
**Applied Adult Neurorehabilitative Physical Therapy**  
The course will emphasize procedures to support physical therapy management of adults with neuromuscular disorders. Students will practice the selection and application of tests and measures, treatment techniques, equipment prescription, and outcome assessment and recommendations. Prerequisite: concurrent enrollment in PTS 735; admission to DPT Professional Program. Offered Fall.

PTS 737 Cr.2  
**Musculoskeletal Evaluation and Treatment: Upper Extremity**  
This course will emphasize the implementation of the patient/client management model in the realm of musculoskeletal physical therapy of the upper extremity. Prerequisite: concurrent enrollment in PTS 736; admission to DPT Professional Program. Offered Fall.

PTS 739 Cr.1  
**Applied Musculoskeletal Evaluation and Treatment: Upper Extremity**  
This course will emphasize the clinical skills included in the patient/client management model and application of the lecture material presented in PTS 737 (Musculoskeletal Evaluation and Treatment: Upper Extremity). Prerequisite: concurrent enrollment in PTS 737; admission to DPT Professional Program. Offered Fall.

PTS 741 Cr.2  
**Evidenced Based Practice in Physical Therapy**  
This course is intended to provide the learner with strategies to evaluate the evidence underlying physical therapy practice. Learners will utilize this evidence as a framework for determining best practice. Evidence based strategies include analysis of outcome measures used in physical therapy, interpretation and analysis of clinical prediction rules, and conducting focused systematic reviews of physical therapy interventions. Prerequisite: admission to DPT Professional Program. Offered Fall.

PTS 742 Cr.1  
**Research Practicum**  
Practical experience carrying out a research project under the guidance of the principal investigator(s). Students may be asked to participate in some of the following activities: search and critique the literature concerning the research problem, collect data, process, analyze and/or manage data, assist with statistical analysis, interpret results. Repeatable for credit - maximum two. Lab. 2. Prerequisite: admission to DPT Professional Program. Offered Fall, Spring.

PTS 743 Cr.1  
**Evidence Based Practice Seminar**  
Seminar course focusing on the critical analysis of published clinical research related to Physical Therapy Tests and Measures. Students will select research papers and critique the sample utilized, research design, methodology and instrument employed, interpretation of statistical and practical results, discussion of applications to therapy and suggestions for further research. This course builds on content from PTS 545 and PTS 542. Oral and written presentations are required. Prerequisite: admission to DPT Professional Program. Offered Fall.

PTS 751 Cr.2  
**Fieldwork: General Practice**  
A clinically based learning experience where students will practice basic skill acquisition in real time. Fieldwork placements will be with a general practitioner/clinical instructor (CI). Consistent with the services that may be provided in a general practice, students may be expected to provide supervised therapy for less complicated patients in any supervised setting including but not limited to: acute care, extended care facility, home care, outpatient orthopedic, and pediatrics. Prerequisite: admission to DPT Professional Program. Pass/Fail grading. Offered Summer.

PTS 798 Cr.1-3  
**Independent Study**  
Independent study of a special topic or problem related to physical therapy examination, intervention, diagnosis, prognosis, outcome assessment or professional practice. Physical therapy elective. Open to students after discussion with instructor. Repeatable for credit – maximum six. Prerequisite: admission to DPT Professional Program. Consent of instructor. Offered Occasionally.

PTS 831 Cr.1  
**Clinical Decision Making in an Inpatient Acute Care/Rehab Setting**  
This course introduces learners to clinical reasoning as a systematic process to assist practitioners in inferring or drawing conclusions about patient care in a rural environment. Prerequisite: admission to DPT Professional Program. Offered Fall.
PTS 851 Cr.6  
Internship: Inpatient-Acute/Rehab  
This course is the first in a series of three required physical therapy internships whereby the student is assigned to a clinical facility under the direction and supervision of a Physical Therapist Clinical Instructor. Clinical experiences will be representative of settings where physical therapy is routinely practiced. Examples of settings include, but are not limited to: acute care hospitals, rehabilitation centers, home-care, outpatient clinics, schools, skilled nursing facilities, and wellness centers. The collective outcome of all three 12-week internships will encompass patient experiences that ensure students are competent with management of patients across the lifespan and continuum of care. The patient management model will be applied to individuals with musculoskeletal, neuromuscular, cardiovascular, pulmonary, and integumentary problems. Prerequisite: good academic standing; satisfactory completion of all didactic coursework; must be functioning at the entry level on the professional behavior assessment tool; admission to the DPT Professional Program. Pass/Fail grading. Offered Summer.

PTS 852 Cr.6  
Internship: Outpatient Orthopedic  
This course is the second in a series of three required physical therapy internships whereby the student is assigned to a clinical facility under the direction and supervision of a Physical Therapist Clinical Instructor. Clinical experiences will be representative of settings where physical therapy is routinely practiced. Examples of settings include, but are not limited to: acute care hospitals, rehabilitation centers, home-care, outpatient clinics, schools, skilled nursing facilities, and wellness centers. The collective outcome of all three 12-week internships will encompass patient experiences that ensure students are competent with management of patients across the lifespan and continuum of care. The patient management model will be applied to individuals with musculoskeletal, neuromuscular, cardiovascular, pulmonary, and integumentary problems. Prerequisite: good academic standing; satisfactory completion of all didactic coursework; must be functioning at the entry level on the professional behavior assessment tool; admission to the DPT Professional Program. Pass/Fail grading. Offered Fall.

PTS 853 Cr.6  
Internship: Autonomous Practice  
This course is the third in a series of three required physical therapy internships whereby the student is assigned to a clinical facility under the direction and supervision of a Physical Therapist Clinical Instructor. Clinical experiences will be representative of settings where physical therapy is routinely practiced. Examples of settings include, but are not limited to: acute care hospitals, rehabilitation centers, home-care, outpatient clinics, schools, skilled nursing facilities, and wellness centers. The collective outcome of all three 12-week internships will encompass patient experiences that ensure students are competent with management of patients across the lifespan and continuum of care. The patient management model will be applied to individuals with musculoskeletal, neuromuscular, cardiovascular, pulmonary, and integumentary problems. Prerequisite: good academic standing; satisfactory completion of all didactic coursework; must be functioning at the entry level on the professional behavior assessment tool; admission to the DPT Professional Program. Pass/Fail grading. Offered Spring.

PTS 854 Cr.1  
Capstone Project  
Hybrid course with online and campus-based classes focusing on development of a written manuscript (case report, systematic literature review, or research manuscript) with faculty mentoring and oversight. Scholarly writing consistent with journal submission guidelines is required. Prerequisite: good academic standing; satisfactory completion of all didactic coursework; must be functioning at the entry level on the professional behavior assessment tool; admission to the DPT Professional Program. Consent of instructor. Pass/Fail grading. Offered Fall, Spring, Summer.

Physician Assistant Studies (PAS) - Graduate Courses

Courses

BIO/PAS/PTS 509 Cr.3  
Human Gross Anatomy  
A comprehensive consideration of human gross anatomy. Systems included are musculoskeletal, neurological, urogenital, gastrointestinal and cardiopulmonary. Function, development, and topographic correlations are emphasized as a means toward evaluating clinical applications. Biomechanical function, topographic and clinical applications are emphasized. Prerequisite: admission to the Biology CRNA Program, PAS Program, or DPT Professional Program; concurrent enrollment in BIO/PAS/PTS 510 under same department. (Cross-listed with BIO/PAS/PTS; may only earn credit in one department.) Offered Summer.

BIO/PAS/PTS 510 Cr.3  
Applied Human Gross Anatomy  
A comprehensive consideration of human anatomy including both neuro-musculoskeletal components and internal organ systems. Systems included are musculoskeletal, neurological, urogenital, gastrointestinal, and cardiopulmonary. The course provides an in-depth understanding of the gross anatomy of the human body through regional dissection. This understanding will then be demonstrated through the application of anatomy within clinical presentations. Prerequisite: admission to the Biology CRNA Program, PAS Program, or DPT Professional Program; concurrent enrollment in BIO/PAS/PTS 509 under same department. (Cross-listed with BIO/PAS/PTS; may only earn credit in one department.) Offered Summer.

BIO/PAS/PTS 624 Cr.2  
Medical Biochemistry  
A study of chemical processes in cells (i.e., enzymes, lipids, membranes, metabolism, nucleic acids, receptor-sites, etc.) with special emphasis on building a foundation for the study of methods for diagnosis and treatment of human diseases and disorders. Prerequisite: admission to the Physician Assistant Program. Offered Summer.

BIO/PAS/PTS 626 Cr.3  
Physiology for the Medical Professional  
An advanced study of the physiology of human organ systems focusing on topics that provide the basis for understanding disease and pharmacotherapeutic mechanisms. Prerequisite: admission to the Physician Assistant Program. May not earn credit for PAS 626 and BIO 718 or BIO 719. Offered Summer.
PAS 628 Cr.2
Clinical Infectious Disease
This course introduces the principles of infectious diseases and the characteristics of the important pathogens. The discussion will focus on the clinical aspects of each infectious disease building on previous knowledge of microbiology. Includes a survey of microorganisms that commonly infect humans including bacteria, fungi, viruses, and parasites. The immune system role in preventing and treating infectious diseases will also be discussed. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Fall.

PAS 630 Cr.4
Medical Pharmacology and Pharmacotherapeutics I
This course presents a broad survey of the general principles of pharmacology. Included are the essential principles of pharmacokinetics and pharmacodynamics; and the mechanism of action, physiologic effects, adverse effects and interactions, and clinical and therapeutic application of specific drugs and drug groups. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Fall.

PAS 631 Cr.1
Medical Pharmacology and Pharmacotherapeutics II
This course will continue to build on the knowledge of pharmacologic principles obtained in Medical Pharmacology and Pharmacotherapeutics I. It will focus on the mechanism of action, physiologic effects, adverse effects and interactions, and clinical and therapeutic application of specific drugs and drug groups. Prerequisite: PAS 630; admission to the Physician Assistant Program and approval of the program director. Offered Spring.

PAS 640 Cr.2
Introduction to the Physician Assistant Profession
This course provides an overview of the PA profession, its history, current role in health care and other issues of professional interest. Students also begin to develop patient interview and communication skills. Concepts of professionalism and professional ethics as a PA student and graduate physician assistant are introduced. Prerequisite: admission to the Physician Assistant Program. Offered Summer.

PAS 642 Cr.3
Medical History and Physical Exam
This course is designed to introduce the process of history taking, physical examination, and patient assessment. The course includes a review of anatomy and physiology relevant to physical examination skills, instruction and demonstration of proper examination and history taking techniques, with practical application of these skills in the clinical setting. The course is comprised of several components including: Medical History, Physical Examination, Clinical experience (including visits to local nursing homes and rural family practice mentorships). Prerequisite: concurrent enrollment in PAS 643; admission to the Physician Assistant Program and approval of the program director. Offered Fall.

PAS 643 Cr.1
Applied Medical History and Physical Exam
This course is designed to apply principles of history taking, physical examination, and patient assessment discussed in Medical History and Physical Exam in the laboratory setting. Prerequisite: concurrent enrollment in PAS 642; admission to the Physician Assistant Program and approval of the program director. Offered Fall.

PAS 644 Cr.1
The Clinical Patient Examination
This course prepares PA students for sensitive portions of the complete clinical examination of patients. Necessary skills are presented in lecture, and then demonstrated using plastic models. Students then practice these skills with professional patients. Lect. 3; Lab 4. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Winter.

PAS 645 Cr.2
Evidence Based Practice
This course is designed to build upon information literacy and evidence-based medicine skills acquired in PAS 654. Students gain further experience in using the medical literature to answer focused clinical questions. The critical evaluation process is expanded to include the secondary medical literature and the application of clinical practice guidelines to patient care. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Spring.

PAS 647 Cr.2
Clinical Practice Skills
This course brings together the knowledge and skills developed previously in the program to perform and document the comprehensive history and physical examination, as well as more focused patient encounters. Clinical critical thinking becomes an integral part of patient evaluation through the development of differential diagnoses, diagnostic strategies, and treatment plans. This course also covers the topics of geriatric patient evaluation and billing/coding, and provides students with experiences in oral patient presentation and Inter-professional education. Lect. 1, Lab 3. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Spring.

PAS 649 Cr.1
Health Care Administration, Law, & Ethics in Medicine
This course provides the PA student with an introduction to the current health care and reimbursement systems in America, their operation and impact on community health and medical practice. Legal and regulatory aspects of medical care as a physician assistant are explored. Issues of the ethical practice of medicine are also explored. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Winter.

PAS 651 Cr.1
Behavioral Medicine
This course includes presentation of behavioral and social concepts in medicine including personality development, normative responses to stress, psychosomatic manifestations of illness, sexuality, basic counseling skills, and emotional problems of daily living. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Spring.

PAS 652 Cr.2
Clinical Procedures
Developing a variety of clinical procedural skills such as starting IV lines, drawing blood, giving injections and Advanced Cardiac Life Support. Students learn various surgical protocols and procedures and other standard hospital procedures such as suturing and casting. Lect. 8; Lab 16. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Pass/Fail grading. Offered Summer.
PAS 654 Cr.2
Evidence Based Medicine
This course presents a systematic approach to the development of information literacy in clinical practice by providing a framework for self-directed inquiry and lifelong learning. Students learn to develop answerable clinical questions and then to use the best evidence by searching out relevant medical literature, interpreting the literature through a basic knowledge of study design and medical statistics, critically examining the literature, and applying findings to individualized patient care. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Fall.

PAS 680 Cr.1
Pathology
This course presents the general principles of pathology, including cell injury, inflammation, healing, neoplasia, genetic and developmental pathology and immunopathology, as a foundation for the study of disease processes and treatment specific to the cardiovascular system. This course will expand on the basic medical sciences of human anatomy, physiology, and medical biochemistry as they apply to clinical medicine. Issues related to nutrition, medical imaging and diagnostic testing in pathology are also presented. This course is designed to allow PA students to develop clinical reasoning skills and an advanced understanding of cardiovascular disease processes and their treatment. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Summer.

PAS 681 Cr.1
Medical Diagnostics
This course is designed to introduce the PA student to the basic principles of diagnostic laboratory medicine and radiology commonly used in the clinical setting. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Fall.

PAS 682 Cr.3
Internal Medicine: Cardiology
This course is designed to teach content and integrate the basic principles of pathophysiology, clinical diagnosis and management of cardiovascular disease. This course will expand on the basic medical sciences of human anatomy, physiology, and medical biochemistry as it applies to clinical medicine. The course is designed to allow PA students to develop clinical reasoning skills and an advanced understanding of disease processes and treatment specific to the cardiovascular system. The course will also provide instruction in the interpretation of the 12 lead EKG’s. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Fall.

PAS 683 Cr.3
Internal Medicine: Gastroenterology & Pulmonology
This course is designed to teach content and integrate the basic principles of pathophysiology, clinical diagnosis, management of pulmonary, gastrointestinal, hepatic, biliary, and pancreatic diseases. This course will expand on the basic medical sciences of human anatomy, physiology, and medical biochemistry as it applies to clinical medicine. The course is designed to allow PA students to develop clinical reasoning skills and an advanced understanding of disease processes and treatment specific to the pulmonary and gastrointestinal systems. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Fall.

PAS 688 Cr.1
Neuroanatomy
This course provides the student with an understanding of the structure, organization and function of the central, peripheral and autonomic nervous systems. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Fall.

PAS 701 Cr.1
Internal Medicine Subspecialty: Nephrology
This course is designed to teach content and integrate the basic principles of pathophysiology, clinical diagnosis and management of a spectrum of disorders in nephrology. This course will expand on the basic medical sciences of human anatomy, physiology, and medical biochemistry as they apply to clinical medicine. Issues related to nutrition, medical imaging and diagnostic testing in nephrology are also presented. The course is designed to allow PA students to develop clinical reasoning skills and an advanced understanding of renal disease processes and their treatment. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Consent of department. Offered Winter.

PAS 703 Cr.1
Internal Medicine Subspecialty: Endocrinology
This course is designed to teach content and integrate the basic principles of pathophysiology, clinical diagnosis and management of a spectrum of disorders in endocrinology. This course will expand on the basic medical sciences of human anatomy, physiology, and medical biochemistry as they apply to clinical medicine. Issues related to nutrition, medical imaging and diagnostic testing in endocrinology are also presented. The course is designed to allow PA students to develop clinical reasoning skills and an advanced understanding of endocrine disease processes and their treatment. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Consent of department. Offered Spring.

PAS 707 Cr.2
Internal Medicine Subspecialties II: Hematology and Rheumatology
This course integrates presentation of the pathophysiology, clinical diagnosis and management of a spectrum of disorders in hematology and rheumatology. Issues related to medical imaging in these disciplines are also presented. The course is designed to allow PA students to develop critical clinical reasoning skills, and an advanced understanding of hematologic and rheumatologic disease processes and their treatment. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Spring.

PAS 709 Cr.1
Emergency Medicine
This course integrates presentation of the pathophysiology, clinical diagnosis and management of a spectrum of disorders commonly seen in the emergency room setting. The course is designed to allow PA students to develop critical clinical reasoning skills, and an advanced understanding of emergency room setting disease processes and their treatment. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Spring.

PAS 711 Cr.2
Clinical Neuroscience
This course builds on the knowledge of anatomical principles obtained in Neuroanatomy. It integrates presentation of the pathophysiology, clinical diagnosis and management of a spectrum of disorders in neurology and psychiatry. Issues related to medical imaging in these medical disciplines are also presented. The course is designed to allow PA students to develop critical clinical reasoning skills and an advanced understanding of disease processes involving the nervous system. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Spring.
PAS 720 Cr.4
Family Medicine Rotation I
This 4-week rotation provides students with clinical experience in broad, primary care setting during which students refine their skills in performing the history and physical exam, ordering and interpreting diagnostic tests, and developing treatment plans for the diversity of patients in a typical family medicine practice. Where possible, students participate in grand rounds, noon conferences and other clinically relevant didactic presentations. A set of cognitive objectives guides student reading in preparation for a written examination at the end of the rotation. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Fall, Winter, Spring, Summer.

PAS 722 Cr.4
Internal Medicine Rotation I
This 4-week rotation provides students with clinical experience in an internal medicine setting during which students refine their skills in performing the history and physical exam, ordering and interpreting diagnostic tests, and developing treatment plans for the diversity of patients in a typical internal medicine practice. Where possible, students participate in grand rounds, noon conferences and other clinically relevant didactic presentations. A set of cognitive objectives guides student reading in preparation for a written examination at the end of the rotation. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Fall, Winter, Spring, Summer.

PAS 724 Cr.4
General Surgery Rotation
This 4-week rotation provides students with clinical experience in a general surgery setting during which students refine their skills in performing the history and physical exam, ordering and interpreting diagnostic tests, assisting with surgery and developing treatment plans for the diversity of patients in a typical general surgery practice. Where possible, students participate in grand rounds, noon conferences and other clinically relevant didactic presentations. A set of cognitive objectives guides student reading in preparation for a written examination at the end of the rotation. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Fall, Winter, Spring, Summer.

PAS 726 Cr.4
Obstetrics and Gynecology Rotation
This 4-week rotation provides students with clinical experience in an obstetrics and gynecology setting during which students refine their skills in performing the history and physical exam, ordering and interpreting diagnostic tests, assisting with deliveries and gynecologic surgery, and developing treatment plans for the diversity of patients in a typical ob/gyn practice. Where possible, students participate in grand rounds, noon conferences and other clinically relevant didactic presentations. A set of cognitive objectives guides student reading in preparation for a written examination at the end of the rotation. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Fall, Winter, Spring, Summer.

PAS 728 Cr.4
Pediatric Rotation
This 4-week rotation provides students with clinical experience in a pediatric setting during which students refine their skills in performing the history and physical exam, ordering and interpreting diagnostic tests, and developing treatment plans for the diversity of patients in a typical pediatric practice. Where possible, students participate in grand rounds, noon conferences and other clinically relevant didactic presentations. A set of cognitive objectives guides student reading in preparation for a written examination at the end of the rotation. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Fall, Winter, Spring, Summer.

PAS 730 Cr.4
Psychiatry Rotation
This 4-week rotation provides students with clinical experience in a psychiatry setting during which students refine their skills in performing the history and physical exam, ordering and interpreting diagnostic tests, and developing treatment plans for the diversity of patients in a typical psychiatry practice. Where possible, students participate in grand rounds, noon conferences and other clinically relevant didactic presentations. A set of cognitive objectives guides student reading in preparation for a written examination at the end of the rotation. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Fall, Winter, Spring, Summer.

PAS 732 Cr.4
Emergency Medicine Rotation
This 4-week rotation provides students with clinical experience in an emergency medicine setting during which students refine their skills in performing the history and physical exam, ordering and interpreting diagnostic tests, and developing treatment plans for the diversity of patients in a typical emergency medicine practice. Where possible, students participate in grand rounds, noon conferences and other clinically relevant didactic presentations. A set of cognitive objectives guides student reading in preparation for a written examinations at the end of the rotation. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Fall, Winter, Spring, Summer.

PAS 756 Cr.4
Selective Rotation 1
The student selects a clinical area for the selective clinical rotation(s) with the approval of program faculty. The clinical rotation is to be completed within the student’s assigned health system. Students may select clinical experiences from specialty areas not included in the required rotations, or in one of the required clinical areas. During this rotation, students will refine their skills in performing the history and physical examination, ordering and interpreting diagnostic tests, and developing plans for the diversity of patients in the chosen medical or surgical specialty. Where possible, students participate in grand rounds, noon conferences and other clinically relevant didactic presentations. A set of cognitive objectives guides student reading in preparation for a written examination at the end of the rotation. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Consent of department. Offered Fall, Winter, Spring, Summer.
PAS 757 Cr.4
Selective Rotation 2
The student selects a clinical area for the selective clinical rotation(s) with the approval of program faculty. The clinical rotation is to be completed within the student's assigned health system. Students may select clinical experiences from specialty areas not included in the required rotations, or in one of the required clinical areas. During this rotation, students will refine their skills in performing the history and physical examination, ordering and interpreting diagnostic tests, and developing plans for the diversity of patients in the chosen medical or surgical specialty. Where possible, students participate in grand rounds, noon conferences and other clinically relevant didactic presentations. A set of cognitive objectives guides student reading in preparation for a written examination at the end of the rotation. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Consent of department. Offered Fall, Winter, Spring, Summer.

PAS 758 Cr.4
Selective Rotation 3
The student selects a clinical area for the selective clinical rotation with the approval of program faculty. The clinical rotation may be completed within or outside of the student's assigned health system. Students may select clinical experiences from specialty areas not included in the required rotations, or in one of the required clinical areas. With the consultation and approval of program faculty, the student develops an individualized learning contract that includes objectives for the rotation, and a method to demonstrate achievement of these objectives at the conclusion of the rotation. Where possible and appropriate, students participate in grand rounds, noon conferences and other clinically relevant didactic presentations. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Consent of department. Pass/Fail grading. Offered Fall, Winter, Spring, Summer.

PAS 759 Cr.4
Selective Rotation 4
The student selects a clinical area for the selective clinical rotation with the approval of program faculty. The clinical rotation may be completed within or outside of the student's assigned health system. Students may select clinical experiences from specialty areas not included in the required rotations, or in one of the required clinical areas. With the consultation and approval of program faculty, the student develops an individualized learning contract that includes objectives for the rotation, and a method to demonstrate achievement of these objectives at the conclusion of the rotation. When possible and appropriate, students participate in grand rounds, noon conferences and other clinically relevant didactic presentations. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Consent of department. Pass/Fail grading. Offered Fall, Winter, Spring, Summer.

PAS 760 Cr.1
Obstetrics - Maternal/Fetal Care
This course is designed to teach content and integrate the basic principles of embryology, anatomy, pathophysiology, clinical diagnosis and management of the obstetric patient and developing fetus. The course is designed to allow PA students to develop clinical reasoning skills, formulation of treatment plans, as well as an advanced understanding of maternal and fetal health. Prerequisite: admission to the Physician Assistant Program. Offered Spring.

PAS 761 Cr.1
Gynecology and Women's Health
This course is designed to teach content and integrate the basic principles of anatomy, pathophysiology, clinical diagnosis and management of a spectrum of disorders in gynecology along with wellness care and disease prevention. The course is designed to allow PA students to develop clinical reasoning skills, formulation of treatment plans, as well as an advanced understanding of gynecologic health. Prerequisite: admission to the Physician Assistant Program. Offered Spring.

PAS 762 Cr.1
Pediatric and Adolescent Medicine
This course is designed to teach content and integrate the basic principles of anatomy, pathophysiology, clinical diagnosis and management of a spectrum of disorders in Pediatrics & Adolescent Medicine along with wellness care and disease prevention. The course is designed to allow PA students to develop critical reasoning skills, formulation of treatment plans, as well as an advanced understanding of pediatric and adolescent health. Prerequisite: admission to the Physician Assistant Program. Offered Spring.

PAS 770 Cr.1
Principles of Surgical Medicine I: General Surgery and Anesthesia
This course integrates presentation of the pathophysiology, clinical diagnosis and management of a spectrum of disorders in anesthesia and general surgery. A suturing skills laboratory is also incorporated into the course. The course is designed to allow PA students to develop critical reasoning skills and an advanced understanding of surgical disease processes and their treatment. Prerequisite: admission to the Physician Assistant Program. Offered Spring.

PAS 771 Cr.1
Principles of Surgical Medicine II: Orthopedics
This course integrates presentation of the pathophysiology, clinical diagnosis and management of a spectrum of disorders in orthopedic surgery. Issues related to medical imaging and diagnostics in this medical discipline are also presented. The course is designed to allow PA students to develop critical reasoning skills and an advanced understanding of orthopedic disease processes and their treatment. Prerequisite: admission to the Physician Assistant Program. Offered Spring.

PAS 772 Cr.1
Principles of Surgical Medicine III: Surgical Subspecialties
This course integrates presentation of the pathophysiology, clinical diagnosis and management of a spectrum of disorders in the surgical subspecialties of otorhinolaryngology, ophthalmology and urology. Issues related to medical imaging and diagnostics in these medical disciplines are also presented. The course is designed to allow PA students to develop critical reasoning skills and an advanced understanding of otorhinolaryngologic, ophthalmologic, and urologic disease processes and their treatment. Prerequisite: admission to the Physician Assistant Program. Offered Spring.

PAS 773 Cr.1
Dermatology
This course integrates presentation of the pathophysiology, clinical diagnosis and management of a spectrum of disorders in dermatology. The course is designed to allow PA students to develop critical reasoning skills and an advanced understanding of dermatologic disease processes and their treatment. Prerequisite: admission to the Physician Assistant Program. Offered Spring.
PAS 790 Cr.2

**Capstone Seminar 1**
The Capstone Seminar 3-course series occurs during the clinical year and aims to develop skills important to the professional physician assistant practice. This seminar series addresses a broad range of current and trending topics pertinent to health care delivery. Topics include, but are not limited to: humanistic care, inter-professional collaboration, patient communication and health literacy, diverse populations, public health, difficult patient encounters, patient safety and quality of care, resume preparation and job seeking skills, systematic review of the literature, interpretation of the medical literature to answer clinical questions, appreciation of practice regulations, clinical skill refinement and preparedness to practice. Completion of the Capstone Seminar series supports our program’s mission of educating highly competent and compassionate PAs who are grounded in professional ethics, cultural sensitivity, and the use of evidence based medicine. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Summer.

PAS 792 Cr.2

**Capstone Seminar 2**
The Capstone Seminar 3-course series occurs during the clinical year and aims to develop skills important to the professional physician assistant practice. This seminar series addresses a broad range of current and trending topics pertinent to health care delivery. Topics include, but are not limited to: humanistic care, inter-professional collaboration, patient communication and health literacy, diverse populations, public health, difficult patient encounters, patient safety and quality of care, resume preparation and job seeking skills, systematic review of the literature, interpretation of the medical literature to answer clinical questions, appreciation of practice regulations, clinical skill refinement and preparedness to practice. Completion of the Capstone Seminar series supports our program’s mission of educating highly competent and compassionate PAs who are grounded in professional ethics, cultural sensitivity, and the use of evidence based medicine. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Fall.

PAS 794 Cr.2

**Capstone Seminar 3**
The Capstone Seminar 3-course series occurs during the clinical year and aims to develop skills important to the professional physician assistant practice. This seminar series addresses a broad range of current and trending topics pertinent to health care delivery. Topics include, but are not limited to: humanistic care, inter-professional collaboration, patient communication and health literacy, diverse populations, public health, difficult patient encounters, patient safety and quality of care, resume preparation and job seeking skills, systematic review of the literature, interpretation of the medical literature to answer clinical questions, appreciation of practice regulations, clinical skill refinement and preparedness to practice. Completion of the Capstone Seminar series supports our program’s mission of educating highly competent and compassionate PAs who are grounded in professional ethics, cultural sensitivity, and the use of evidence based medicine. Prerequisite: admission to the Physician Assistant Program and approval of the program director. Offered Spring.

**Physics (PHY) - Graduate Courses**

**Physics and Astronomy Internship**
Full- or part-time work experience in a physics or astronomy related position with a public or private agency. Not more than five credits are applicable to a major or three credits to a minor in physics. A written application, departmental acceptance, and appointment of adviser must be completed before registration. Repeatable for credit - maximum 15. Prerequisite: minimum cumulative GPA of 2.25 (2.50 in physics). PHY 104 or PHY 204, plus six credits in physics or astronomy courses above 204 level. (Cross-listed with AST/PHY; may only ear credit in one department.) Offered Occasionally.

**Topics in Physics and Astronomy**
Various subjects of interest to specific groups will be offered on occasion. Specific sub-topics will be assigned each time the course is offered. Such titles might include nuclear physics, low temperature physics, and the interstellar medium. Repeatable for credit under different subtitles - maximum 12. Prerequisite: PHY 104 or PHY 204. (Cross-listed with AST/PHY; may only earn credit in one department.) Offered Occasionally.

**Political Science (POL) - Graduate Courses**

**Courses**

**Honors/Graduate Reading and Research in Political Science**
Directed honors or graduate reading and research from reading lists under the supervision of the candidate’s faculty adviser. Designed to prepare the honors candidate for the terminal examination. Prerequisite: senior standing and an honors program candidate or graduate standing. Offered Fall, Spring.

**Psychology (PSY) - Graduate Courses**

**Courses**

**Advanced Psychopathology**
This course focuses on selected topics in the area of clinical and abnormal psychology and is designed to provide in-depth knowledge of advanced current issues in the field. It helps prepare undergraduate or graduate students for the field of human services by offering additional information beyond that conveyed in the abnormal psychology course and is offered. Such titles might include nuclear physics, low temperature physics, and the interstellar medium. Repeatable for credit under different subtitles - maximum 12. Prerequisite: PHY 104 or PHY 204. (Cross-listed with AST/PHY; may only earn credit in one department.) Offered Occasionally.
PSY 420/520 Cr.3

Advanced Research Methods
An advanced course in the quantitative and logical aspects of statistical analysis, interpretation and design of behavioral science research and experimentation. Major emphasis is on the conceptual rather than the computational aspects of quantitative methods. Recommended for those planning graduate work in psychology or related fields. Prerequisite: PSY 100; PSY 210; PSY 321 or PSY 331, MTH 145. Offered Spring.

PSY 426/526 Cr.3

Addictive Behaviors
Study of the personality characteristics of individuals experiencing substance abuse, dependency, and compulsive behaviors such as eating disorders and gambling. The focus will be on abuse as a maladaptive response to the demands of life. Special topics will include consumptive patterns, level of dependence, neurological status, assessment, and contemporary treatment techniques. Prerequisite: PSY 100; PSY 204; PSY 210 or PSY 212. Offered Occasionally.

PSY 434/534 Cr.3

Clinical Neuropsychology
This course examines the relationship between brain functioning and cognition, behavior, and emotion. The course covers neuroanatomy, neurophysiology, and neuropsychological assessment. The history, rationale, goals, and procedures of neuropsychological assessment will be explored alongside the role that neuropsychologists play in the evaluation and treatment of individuals with disorders (e.g., dementia, stroke, or traumatic brain injury). Prerequisite: PSY 100; PSY 321 or PSY 331 or BIO 312. Offered Annually.

PSY 435/535 Cr.3

Cognitive Processes
This course examines theories, models, and related experimental research concerning human mental processes. Topics include acquisition of information, memory, decision-making, problem solving, and language. Prerequisite: PSY 100; PSY 321 or PSY 331. Offered Annually.

PSY 436/536 Cr.3

Psychology of Language
An introductory course in psycholinguistics concerned with the comprehension, production and acquisition of language. Other topics include: language and thought, reading, writing, bilingualism, figurative language, metalinguistic skills, and the neuro-psychology of language. Prerequisite: PSY 100; PSY 321 or PSY 331. Offered Spring - Even Numbered Years.

PSY 441/541 Cr.3

Advanced Social Psychology
The course will provide coverage of methodology and statistics most frequently encountered in social psychology and cover topics both of classic and current interest such as stereotypes and prejudice, medical social psychology, environmental psychology, social interdependence, leadership, and power. Prerequisite: PSY 100, PSY 241, PSY 331, PSY 332; SOC 330; MTH 145. Offered Occasionally.

PSY 451/551 Cr.3

Psychological Measurement
Principles and procedures for the psychological measurement of human differences. This course examines the development, quantitative interpretation, uses, distinctive and desired characteristics of tests of intelligence, aptitudes, achievement, occupational interests and personality. Prerequisite: PSY 100; PSY 321 or PSY 331. Offered Fall, Spring.

PSY 710 Cr.2-3

Educational Psychology: Human Development
This course explores human development with an emphasis on issues that are relevant to establishing effective conditions for successful learning in school contexts. Major topics include developmental theories and issues, and cognitive, language and social-emotional development. In addition, individual differences, multiple influences on developmental processes, multicultural and gender issues and the role of early experiences are examined. Repeatable for credit - maximum three. Prerequisite: admission to a program leading to certification in a school related profession, and an undergraduate course in developmental psychology (e.g., lifespan, child or adolescent). Offered Fall.

PSY 717 Cr.3

Behavior Disorders in Children

PSY 725 Cr.3

Research & Program Evaluation in Schools
This course is designed to increase competencies in understanding and applying educational research and provide skills to successfully participate in school wide evaluation and improvement efforts. Prerequisite: MTH 145 or equivalent. Offered Summer.

PSY 756 Cr.3

Early Childhood Assessment
This course will provide an in-depth review of best practices of formal and informal assessment techniques in early childhood. Such techniques will be discussed in context to the four major functions of assessment: screening, diagnosis/eligibility, program planning, and program evaluation. The course will focus on procedural considerations in assessing cognition, motor skills, communication, play, socialization, behavior, and adaptive skills in early childhood. Issues of test development, standardization, reliability, validity, and report writing will also be explored. The challenges of assessing young children and meeting the ongoing needs of the child and family will be addressed. Prerequisite: Graduate status. Consent of instructor. Offered Fall.

PSY 759 Cr.3

Assessment of Personality and Emotional/Behavioral Disorders

PSY 770 Cr.2-3

Educational Psychology: Learning and Instruction
Consideration of psychological principles, concepts, processes, and interpretations of human learning and cognition and related empirical evidence. Emphasis is given to those most relevant to establishing effective conditions for instruction and learning in schools Prerequisite: admission to a program leading to certification in a school-related occupation. Offered Occasionally.

PSY 772 Cr.3

Counseling & Therapy Methods
Focus on an integrative framework for major theoretical views and methods for use in counseling and therapy. Includes lab and field supervised experiences in individual and group therapy. Offered Fall.
PSY 773 Cr.3  
**Advanced Counseling & Therapy Methods**  
This course is designed to expand on previous therapeutic methods and skills through participating in additional helping relationships in a school setting. Students will be expected to advance their clinical skills by exploring practical and ethical components of critical incidents in schools. Special emphasis will be placed on designing, facilitating, and evaluating group counseling experiences across development stages. Prerequisites: PSY 772; enrollment in School Psychology Program. Offered Spring.

PSY 776 Cr.3  
**Psychological Consultation & Collaboration**  
This course emphasizes theory, research, and applications of psychological consultation and collaboration in a school setting. Students will acquire skills for consulting and collaborating with teachers, parents, and related professionals. Additional topics include organizational systems, organizational development, pupil services, prevention, crisis intervention, home/school/community collaboration, program assessment, and needs assessment. Prerequisite: admission to the School Psychology Program or the Special Education Program. Offered Spring.

PSY 780 Cr.1-3  
**Seminar in Psychology**  
Reading and discussion of selected topics, current trends, and issues in professional psychology. Repeatable for credit - maximum nine. Consent of instructor. Offered Occasionally.

PSY 795 Cr.1-3  
**Directed Study in Psychology**  
Directed readings or presentation of psychological material not available in formal departmental courses. Repeatable for credit - maximum four. Offered Occasionally.

**Public Health (PH) - Graduate Courses**

**Courses**

PH 707 Cr.3  
**Environmental Health**  
Examination of how environmental mechanisms influence human health and how humans impact environmental conditions. A critical analysis of current environmental problems and evidence linking these problems to disease causation and health enhancement. Solutions to environmental health problems will also be critically analyzed. Offered Fall, Summer.

PH 717 Cr.3  
**Emerging Public Health Issues**  
An in-depth policy and practice review of key emerging issues in public health and their societal impacts at the local, national, and international levels. Issues will be selected from the eight health challenge content areas advanced by the Institute of Medicine (2003) and additional sources. Implications for health education and health promotion will be addressed. Prerequisite: HED 701 and HED 703. Offered Spring.

PH 720 Cr.3  
**Program Assessment, Planning, and Evaluation in Health Promotion**  
This course is designed to provide the learner with program assessment, planning, communication, and evaluation skills. Emphasis is placed on community organizing principles, intervention planning, community assessment, group communication dynamics, evaluation design, and grant writing skills. Opportunities to apply these skills to a variety of community health settings are provided. Offered Fall.

PH 755 Cr.3  
**Epidemiology and Public Health Issues**  
Examination of epidemiologic concepts in relation to specific public health issues. Disease investigation techniques, casual factors, case histories, and related bio-statistics are examined and educational implications are discussed. Prerequisite: PH 340 or CHE 340 or equivalent. Offered Summer.

PH 790 Cr.3  
**Public Health Administration and Organization**  
Principles of effective administration as applied to public health practice, leadership, personnel, and management skills will be emphasized with a special focus on organizational concepts related to health and human service agencies. Offered Spring.

**Reading (RDG) - Graduate Courses**

**Courses**

RDG 601 Cr.3  
**Literacy and Language Development for Diverse Learners**  
This course surveys theories of language acquisition and development in first and second languages and the role of language as a foundation for diverse learners. Students will examine theoretical perspectives, key concepts of language development and instruction, and major issues pertinent to teaching diverse learners. Emphasis will be on language knowledge and literacy knowledge in second language literacy development and effective instruction for English language learners. Prerequisite: admission to a graduate Reading Program. Offered Fall.

RDG 702 Cr.3  
**Reading and Literacy in the Content Areas**  
The purpose of this course is to survey current theories and practices for developing readers and writers across all content areas. The course will focus on the development and integration of instructional practices for reading, writing, speaking, listening, viewing and visually representing in specific subject matters or disciplines and across the content areas. Prerequisite: admission to a graduate Reading Program. Offered Summer.

RDG 703 Cr.3  
**Literacy Assessment and Instruction**  
This course introduces students to the key elements of literacy assessment. It surveys a wide range of assessments and instructional interventions in literacy for a variety of learners. It prepares educators to develop theoretical and practical knowledge of effective, research-based interventions, and explores different areas of assessment in literacy, such as phonemic awareness, phonics, fluency, vocabulary, and comprehension. Prerequisite: admission to a graduate Reading Program or School Psychology Program. Offered Spring.

RDG 711 Cr.3  
**Research Methods in Reading**  
The purpose of this course is to provide a comprehensive overview of qualitative and quantitative research purposes, questions, and decision-making tools. In this class, the focus will be on various epistemological, intellectual, and ethical conflicts associated with doing qualitative and quantitative inquiry in the fields of reading and literacy. During this course, students will be guided through the development of their own qualitative and/or quantitative research project on a topic of significance in reading and literacy. Prerequisite: EDS 600. Offered Fall.
RDG 712 Cr.3

**Critical Issues in Reading Difficulties**
The course is designed to develop competence in determining causes and degrees of reading disabilities, recommending specific corrective or remedial instruction to meet specific needs for students. This course will help reading professionals to investigate important factors of achievement gap in literacy learning and incorporate effective research-based modifications for diverse learners. The course content also focuses on practitioner inquiry, reflective practice, and the evolving concept of literacy shaped by the following trends: culturally responsive literacy curriculum, critical literacy, and new literacies. Prerequisite: RDG 601 or SPY 752; taken concurrently with RDG 714 or SPY 763; admission to a graduate Reading Program or School Psychology Program. Offered Fall.

RDG 713 Cr.3

**Advanced Literacy Assessment and Instruction**
This course is designed to help reading teachers and reading specialists to understand their role that involves the remediation of learning disabilities, helping students to develop effective compensatory strategies to use in various settings, and determining which accommodations are necessary to allow students to demonstrate their knowledge and abilities. Topics of this course include developmental reading stages, assessment process, curriculum design, backwards planning, ongoing, traditional and alternative classroom assessment, high stakes testing, language proficiency testing, and principles of designing useful, meaningful, and equitable classroom assessments for and of learning. Prerequisite: RDG 703 or SPY 752; taken concurrently with RDG 714 or SPY 763; admission to a graduate Reading Program or School Psychology Program. Offered Spring.

RDG 714 Cr.1-3

**Literacy Practicum**
The purpose of this supervised practicum is to gain experience working with K-12 students who have been identified as “struggling” readers and/or writers in your school and/or community. A primary focus for this practicum is to gain experience assessing the strengths and needs of various individual learners, along with the design and implementation of instruction to assist students in becoming better readers and writers. Repeatable for credit - maximum six. Prerequisite: concurrent enrollment with RDG 712 or RDG 713. Offered Fall, Spring.

RDG 715 Cr.3

**Children's and Adolescent Literature**
This course highlights and analyzes new and recent trends in children's and young adult literature, acknowledging significant earlier texts and their distinguished features. It also considers curricular and pedagogical issues salient to the adoption of multicultural curricula. Prerequisite: admission to a graduate Reading Program. Offered Summer.

RDG 716 Cr.1-3

**Special Topics Seminar in Reading Education**
Special topics seminar in literacy is designed for the student to explore and study special topics of interest and their application in a reading program. The particular topic selected is to be determined by current need and interest. Repeatable for credit - maximum six. Prerequisite: admission to a graduate Reading Program. Offered Spring, Summer.

RDG 718 Cr.3

**Guiding and Directing a School-Wide Reading/Literacy Program**
This course prepares reading teachers, specialists, coordinators, and administrators for directing textbook adoption, curriculum development, staff development, evaluation, and supervision of reading/writing programs. Prerequisite: taken concurrently with RDG 719; completed nine credits of graduate reading coursework; admission to a graduate Reading Program. Offered Fall.

RDG 719 Cr.1

**Administrative Portfolio for Reading Specialist Licensure**
This course is designed to assist and direct the graduate reading candidate in demonstration of proficiency in each of the Wisconsin administrative standards as applied to the Reading Specialist licensure. Prerequisite: taken concurrently with RDG 718; admission to a graduate Reading Program. Offered Fall.

RDG 770 Cr.1-3

**Symposium in Reading Education**
Studies in reading education of interest to specific groups. Varying topics will be offered at intervals with a specific title assigned to each. Repeatable for credit - maximum six. Offered Occasionally.

RDG 780 Cr.1-2

**Field Experience in K-12 Reading Program**
An intensive and diverse professional experience in a school system (a minimum of 60 hours per credit) under supervision of an experienced reading specialist or other person responsible for the school reading program, and a university supervisor. Repeatable for credit - maximum two. Prerequisite: 15 credits of 500-700 level course work or equivalent. Offered Occasionally.

CI/RDG 781 Cr.3

**Educational Supervision**
Exploration of the nature and scope of responsibilities of areas in educational supervision. Special emphasis will be given to the improvement of instruction and curriculum development through the study of interpersonal relations. (Cross-listed with EDM/RDG; may only earn credit in one department.) Offered Summer.

CI/EDM/EFN/RDG 796 Cr.1-2

**Independent Study**
Directed readings or presentation of material not available in formal departmental courses under the supervision of an assigned staff member. Repeatable for credit - maximum four. (Cross-listed with CI/EDM/EFN/RDG; may only earn four credits total in CI, EFN, EDM, and RDG.) Offered Fall, Winter, Spring, Summer.

RDG 799 Cr.3-6

**Master's Thesis**
Upon successful completion of required courses for the program, students will critically examine issue(s), problems, and trend(s) related to literacy education and write their master's thesis. They will complete a thesis under the supervision of a faculty mentor. Repeatable for credit - maximum six. Prerequisite: at least 21 credits or equivalent. Pass/Fail grading. Offered Fall, Spring, Summer.

**Recreation Management (REC) - Graduate Courses**

**Courses**

REC 400/500 Cr.3

**Planning for Park and Recreation Facilities**
Designed to equip the student with the basic knowledge necessary to understand and implement the planning process in the development of park and recreation facilities. This course is also designed to familiarize the student with federal, state and local statutes, and other related documents (U.S Census, Wisconsin Administrative Codes, county and municipal ordinances). Offered Fall, Spring.
REC 402/502 Cr.3
Risk Management in Leisure Service Organizations
This course will identify the primary components of risk management and deals with the legal aspects of tort liability and contracts in leisure service organizations. It is designed to provide students with the basic knowledge necessary to understand and manage legal risks associated with leisure service organizations. Offered Fall, Spring.

REC 404/504 Cr.3
Budgeting in the Recreation Enterprise
Emphasis is placed on budget development, implementation and management decision-making within the recreation and park enterprise. This course introduces students to various contextual operational budgets within governmental and non-profit enterprises. Offered Fall.

REC 420/520 Cr.3
Revenue Management in Recreation Enterprises
This course covers prices and pricing from both managerial and behavioral perspectives in recreation, parks, and tourism settings. While the managerial aspects of pricing include pricing policy/strategy and revenue management (defined as selling perishable service products to the right customer at the right time for the right price), the behavioral aspects include psychology of pricing, price fairness, price perceptions, and willingness-to-pay for non-market goods. Offered Fall.

REC 481/581 Cr.1-3
Outdoor Pursuits
This course provides skill development and leadership techniques in outdoor recreation activities commonly associated with wilderness and roadless areas. Backcountry ethics and safety will be stressed. A field trip will be required. Examples: backpacking, canoeing, bicycling, rock climbing, fishing, camping, and/or cross-country skiing. Repeatable for credit – maximum six. Offered Occasionally.

REC 491/591 Cr.1-3
Workshops in Recreation and Parks
Group study of varying recreation and parks topics. University professors as well as visiting lecturers will be invited to address the students and conduct specialized phases of the workshops. Repeatable for credit under different topics. No student may earn more than six credits in REC 491/591 and RTH 491/591. Offered Occasionally.

REC 700 Cr.1-6
Internship in Guided Learning
Application of the methods and techniques of recreation leadership and administration through a supervised internship experience. Repeatable for credit - maximum six. Prerequisite: completion of all required REC/RTH courses; approval of recreation management internship coordinator. Consent of instructor. Offered Fall, Spring, Summer.

REC 701 Cr.3
Philoosophical Foundations of Leisure, Play and Recreation
In-depth study of past and current theories of leisure, play and recreation; concepts of work and time; the influence of technology and societal changes and the role of recreation in modern day society. Offered Fall.

REC 704 Cr.3
Current Issues and Problems
An examination of current factors that are affecting the field of recreation, parks, and leisure with a major emphasis on special problem areas. Subject matter may vary in areas of interest or experience of the student and the instructor. Offered Occasionally.

REC 710 Cr.3
Entrepreneurship in Recreation
This course focuses on management processes that the entrepreneur in recreation uses to create new recreation or entertainment services or to reenergize faltering services. Because entrepreneurs create services that are unusual, innovative, or unique, emphasis is given to planning and marketing processes. The course addresses market feasibility studies, business plan development, pricing, advertising, and public relations. Offered Spring.

REC 711 Cr.3
Management of Leisure Services Organizations
Designed to equip the student with the knowledge and skills necessary to manage a public, not-for-profit, or commercial leisure service organization or a division of a leisure service organization. Emphasis will be placed on management functions (planning, organizing, staffing, leading, and controlling) as they relate to the leisure service organization. Offered Spring.

REC 720 Cr.3
Research Methods for Recreation, Parks, and Leisure
The course introduces graduate students to research methods used in leisure research and recreation programs. Students learn to develop a research question, collect and analyze research literature, and conduct research using both quantitative and qualitative methods. The course is designed specifically to help students use methods relevant to the recreation field to take the initial steps for a graduate thesis or project. Offered Fall.

REC 740 Cr.1-3
Outdoor Education
A study of the philosophy, resources, skills, methods and activities associated with the natural environment as a laboratory for the achievement of some of the purposes and objectives of education. The focus of the course is on direct participation and leadership situations in the out-of-doors. Repeatable for credit - maximum four. Offered Occasionally.

REC 751 Cr.1-6
Graduate Project in Recreation
An independent investigation of advanced level study in the leisure service profession. Examples of professional projects include development of agency manuals, development of agency comprehensive assessments, research projects, recreation business proposals, program development and evaluation, and recreation comprehensive plans. Repeatable for credit - maximum six. Consent of department. Offered Fall, Spring, Summer.

REC 780 Cr.3
A Comparative Approach to Leisure & Society
This course will survey leisure practices throughout the world and make a comparison of how leisure is perceived in other societies. Prerequisite: REC 701. Offered Occasionally.

REC 790 Cr.1-3
Advanced Seminar - Recreation Management
Various current professional and theoretical topics will be presented in workshop format. Visiting scholars will supplement faculty presentations. Repeatable for credit - maximum six. Offered Occasionally.

REC 795 Cr.1-3
Independent Study in Recreation
Individualized study of areas not available in existing courses. Repeatable for credit - maximum six. Consent of instructor. Offered Fall, Spring, Summer.
School Health Education (SHE) - Graduate Courses

Courses

SHE 407/507 Cr.3
Health Education in the Elementary School
Introduction of the school health program for the elementary education major and physical education major. Consideration is given to school health services and healthy school living, with a further emphasis on health instruction and health content for the elementary school. Prerequisite: admission to teacher education. Offered Occasionally.

SHE 410/510 Cr.6
Application of Curriculum Processes and Instructional Techniques
This senior level experience provides an opportunity to apply the knowledge, skills, and dispositions of the Interstate Teacher Assessment and Support Consortium Standards (InTASC). The primary focus is on a teacher candidate’s growth and development in the InTASC standards. The traditional field experience or participation in a Professional Development School experience will address how the InTASC standards impact teaching and learning. Further analysis of method selection and instructional strategy development is included from a practical as well as philosophical point of view. Lect 4, Lab 2. Offered Fall, Spring.

SHE 415/515 Cr.3
School Leadership for Health Educators
This course will develop teacher candidates’ leadership skills in school health programming. An overview will be included on the following topics: group dynamics, leadership theories and styles, resources and grants, curriculum assessment and analysis, administration and coordination of health curriculum, and professional skills. Prerequisite: SHE 310 or equivalent. Must be taken concurrently with SHE 510 and acceptance into teacher education program. Offered Fall, Spring.

SHE 416/516 Cr.1
Developing Comp School Health Education Programs
Procedures for comprehensive health education curriculum development - from philosophy through identifying sources, to developing objectives - will be considered in discussion and group interaction. Final projects will include the writing of a partial curriculum. Not applicable for credit in school health education major or minor. Offered Occasionally.

SHE 458/558 Cr.1-2
Imagery Techniques for Health Promotion and Sport Skill Development
This course examines the concepts and theories of autogenic training and mental imagery as applied to maximizing inner potentials for performance excellence. The first credit focuses on the learning and experiencing of the developmental phases of relaxation training, mental practice, concentration, confidence-building through positive affirmation, and maintaining personal rhythm. The second credit focuses on developing the competencies necessary to develop and implement a mental practice program for those in pursuit of excellence. Offered Occasionally.

SHE 460/560 Cr.1-2
Health Promotion and Preference
This course is designed to enable participants to understand and apply Jungian concepts as one approach to health promotion. The Myers-Briggs Type Indicator (MBTI) is used as a springboard for creating awareness and understanding for the application of typology to health promotion. The focus of the course is experiential in nature and the goal is to gain a better understanding of self and others in relation to health promotion issues (i.e., stress management, heart disease, relationships, and team building). Offered Occasionally.

CHE/SHE 475/575 Cr.1-3
Workshop in Health Education
Group study of varying health education topics, community agencies, and educational institutions. Repeatable for credit under different topics - maximum six credits combined SHE. (Cross-listed with SHE/SHE.) Departmental option for pass/fail grading. Consent of instructor. Offered Occasionally.

SHE 705 Cr.2
Introduction to School Health Education
This introductory course will cover the components of Comprehensive School Health Education programs including: basic health knowledge, central health concepts, health tools of inquiry, and pedagogical practices within the field of health education; the role, function, and responsibility of a health education teacher; an overview of health content and common teaching strategies; history of health education; common school health education philosophical and theoretical approaches; and National and State Health Education Standards. Prerequisite: admission to school health education 910 or master’s degree program. Offered Spring.

SHE 710 Cr.3
Leadership in Health Education
This course will provide graduate students with the knowledge and skills necessary to provide leadership for health education in their schools and communities. Included will be an overview of comprehensive/ coordinated school health programs, behavioral change theory, leadership skill development, community partnership development, and program planning and administration. Offered Summer.

SHE 715 Cr.3
Health Education Curriculum and Pedagogy
This course will provide graduate students with the knowledge and skills necessary to develop effective curriculum and learning strategies for health education. The course will provide a hands-on atmosphere where knowledge is used and skills are practiced. Offered Summer.
School Psychology (SPY) - Graduate Courses

Courses

SPY 700 Cr.3
School Psychology: Role and Function
This course covers the roles and functions of school psychologists. Students will learn the history and foundations of their profession; various service models and methods; public policy development applicable to services to children and families; and ethical, professional, and legal standards. Students will also learn the skills needed to work with individuals of diverse characteristics. Prerequisite: admission to the School Psychology Program. Offered Fall.

SPY 751 Cr.3
Core Instruction and Classroom Management Practices
This course is designed to introduce various aspects of good teaching practices to enable school psychologists to consult with teachers to assist student growth. Specific topics include: learning theories, effective instructional practices, and classroom management practices. Prerequisite: admission to the School Psychology Program. Offered Fall.

SPY 752 Cr.3
Academic & Behavioral Interventions
Students will learn methods of systematic data collection and how to translate assessment results into empirically-based interventions. Students will also learn how to develop, implement, and evaluate the effectiveness of appropriate cognitive, behavioral, and academic interventions for children with different abilities and needs. Prerequisite: SPY 700. Offered Spring.

SPY 757 Cr.3
Psychoeducational Assessment I
After a review of the history of psychological assessment, students will be introduced to theories of intelligence. After learning general assessment and testing practices, students will develop specific competencies in the administration and interpretation of current major individual intellectual, cognitive and achievement measures. The course also includes an introduction to test scoring and report writing software. Prerequisite: PSY 451/551 or concurrent enrollment in PSY 551; admission to School Psychology Program. Offered Fall.

SPY 758 Cr.3
Psychoeducational Assessment II
This course further develops student skills in psychoeducational assessment. Students will be introduced to additional measures of cognitive ability, and learn advanced interpretation skills. Students will learn various theoretical models and methods of cognitive assessment within the response-to-intervention framework, as well as assessment procedures for students who are culturally and linguistically diverse. Prerequisite: SPY 757. Offered Spring.

SPY 761 Cr.1
Orientation to Supervised Practicum in School Psychology
This class covers basic knowledge that will prepare the student for Supervised Practicum in School Psychology I (SPY 762). The skills include: orientation to the school setting, information on legal and ethical requirements, and the initiation of professional skills and accountability. Prerequisite: SPY 757. Offered Spring.

SPY 762 Cr.3
Supervised Practicum in School Psychology I
This is a 200-hour, supervised field experience in the application of school psychology professional skills in a school setting. The applied skills include: data-based decision-making, assessing behavioral, intellectual, cognitive, and academic functioning; and designing and implementing cognitive, academic, and behavioral interventions. Prerequisite: SPY 757; acceptance into the School Psychology Program. Offered Spring.

SPY 763 Cr.3
Supervised Practicum in School Psychology II
This is a 250-hour, supervised field experience in the application of school psychology professional skills in a school setting. The applied skills include data-based decision-making, psychoeducational assessment, counseling, and consultation. Prerequisite: SPY 762. Offered Fall.

SPY 764 Cr.3
Supervised Practicum in School Psychology III
This is a 250-hour, supervised field experience in the application of school psychology professional skills in a school setting. The applied skills include: data-based decision-making; assessing behavioral, intellectual, cognitive, and academic functioning; and in collaboration with others, designing and implementing cognitive, academic, adaptive, social, and behavioral interventions for students of varying abilities, disabilities, strengths, and needs. Prerequisite: SPY 763. Offered Spring.

SPY 775 Cr.3
Behavioral Assessment and Management
Students will learn functional behavioral assessment, behavior management techniques, and how to design effective behavioral interventions. Specific topics include interviewing, systematic data collection, and measuring progress and outcomes. Offered Fall.

SPY 795 Cr.4
Directed Studies
Directed readings or presentation of material not available in formal departmental courses. Repeatable for credit - maximum four. Offered Occasionally.
Spanish (SPA) - Graduate Courses

Courses

SPA 427/527 Cr.1
Spanish Grammar for Teachers
A review of selected essential concepts of Spanish grammar with a focus on developing effective strategies for teaching them to beginning Spanish students. Prerequisites: SPA 300 or (SPA 303 and 304); one additional 300-level course in Spanish. Offered Spring.

SPA 498/598 Cr.1-3
Independent Study
Fieldwork, research and individual projects in a specific area of Spanish language, civilization or literature. Registration with the consent of instructor and the department chair. Repeatable for credit - maximum six. Prerequisite: two advanced courses and junior standing. Consent of instructor. Offered Occasionally.

SPA 499/599 Cr.1-3
Independent Study
Fieldwork, research, individual projects in a specific area of Spanish language, civilization or literature. Registration with the consent of instructor and the department chairperson. Repeatable for credit - maximum six. Prerequisite: two advanced courses and junior standing. Consent of instructor. Offered Occasionally.

Special Education (SPE) - Graduate Courses

Courses

SPE 401/501 Cr.3
Introduction to Exceptional Individuals
This course is a general survey of exceptional individuals (disabled and gifted) from birth to 21 years of age. It provides an introduction to special education including history, law, definitions and classification systems, characteristics, etiology, provision of services and educational interventions and procedures related to the various disabilities covered under the law. Prerequisite: ECE 327 or EDS 351 or EDS 402 or SHE 310 or concurrent enrollment; admission to a graduate teacher education program. Offered Fall, Spring, Summer.

SPE 424/524 Cr.3
Classroom Management and Positive Behavior Practices
This course is designed to provide intervention methods and strategies for classroom management as well as positive behavior intervention. The course provides theoretical foundations and practical applications for preventing behavior problems, and for intervening when problems occur. Prerequisite: admission to the graduate Special Education Program or Adapted Physical Education Program. Offered Fall, Spring.

SPE 430/530 Cr.1
Seminar in Special Education
This course provides students who are currently student teaching with directed discussions regarding issues that are occurring in the special education or inclusionary general classroom settings. Students will meet on campus to analyze and discuss their experiences with their peers. This course is designed for persons seeking initial teaching licensure in general education and cross-categorical special education. Prerequisite: admission to the graduate Special Education Program or Adapted Physical Education Program. Offered Fall, Spring.

SPE 483/583 or SPE 484/584. Pass/Fail grading. Offered Fall, Spring.
SPE 431/531 Cr.3
Language Development and Communication Disorders
This course is an introductory course to the stages of normal language development from infancy through later adolescence, including the language factors (phonology, morphology, syntax, semantics, pragmatics) in receptive and expresssive language. The course also focuses on the specific language characteristics and problems of students with disabilities and the impact on language-based academics. Prerequisite: admission to the graduate Special Education Program. Offered Fall.

SPE 440/540 Cr.3
Collaboration and Transition: School to Community
This course is designed to prepare teachers to collaborate and problem-solve as members of educational teams composed of professionals, agency, representatives, and parents. This course focuses on the development of transition plans for adolescents with specific learning disabilities, emotional/behavioral disabilities, and cognitive disabilities; and the plan’s impact on educational curriculum and instructional practices, career development and placement practices. Responsibilities of the teacher as a collaborative team member will be covered. Prerequisite: admission to the graduate Special Education Program. Offered Spring.

SPE 446/546 Cr.3
Methods in Cross-Categorical Special Education-Middle Childhood/Early Adolescence
This course focuses on curriculum, methods and strategies used in educating students with disabilities (emotional/behavioral disabilities, specific learning disabilities, and cognitive disabilities) at the middle childhood/early adolescence age level in a variety of educational placements. Topics covered within this course include academic instruction appropriate for students at the middle childhood/early adolescence age level. Prerequisite: admission to the graduate Special Education Program. Offered Spring.

SPE 447/547 Cr.3
Methods in Cross-Categorical Special Education-Early Adolescence
This course focuses on curriculum, methods and strategies used in educating students with disabilities (Emotional/Behavioral Disabilities, Specific Learning Disabilities, and Cognitive Disabilities) at the early adolescence/adolescence age level in a variety of educational placements. Topics covered within this course include academic instruction appropriate for students at the early adolescence/adolescence age level. Prerequisite: admission to the graduate Special Education Program. Offered Spring.

SPE 452/552 Cr.3
Individual Educational Assessment
This course addresses educational assessment as it relates to the needs of students with specific learning disabilities, emotional/behavioral disabilities, and cognitive disabilities in the context of educational needs. Specific approaches for the evaluation of special education eligibility, teaching and instruction, and monitoring student progress are discussed, including norm-referenced tests, curriculum-based assessment, ecological assessment, and observational techniques. Prerequisite: admission to the graduate Special Education Program. Offered Fall.

SPE 475/575 Cr.1-3
Special Topics Seminar in Special Education
This course is designed to allow students to explore current topics, trends, and issues in the field of special education. Topic(s) to be studied are selected by the instructor based on interest and need. Repeatable for credit - maximum six. (Max three credits applicable to master's degree). Offered Occasionally.

SPE 483/583 Cr.11
Student Teaching Cross-Categorical Special Education: Middle Childhood-Early Adolescence
This student teaching experience is a full-day (18-week) experience in a public school special education or inclusionary general education classroom setting. Students are placed in a state approved special education program, serving students identified with disabilities (specific learning disabilities, emotional/behavioral disabilities, and/or cognitive disabilities) at middle childhood-early adolescence age level. This experience provides a setting in which students are to demonstrate teaching and assessment abilities related to students with special needs. Students work under the immediate supervision of a certified teacher and a university supervisor. This course is designed for persons seeking initial licensure in middle childhood-early adolescence education and cross-categorical special education at the middle childhood-early adolescence level. Prerequisite: concurrent enrollment in SPE 430/530, Completion of special ed. courses and all education requirements, including special methods courses; appropriate education faculty recommendation; 2.75 cum GPA and 2.75 GPA in major, minor, concentrations & professional coursework; passing scores in Praxis II content areas; passing scores in WI Foundations of Reading Test. Consent of department. Satisfactory/Unsatisfactory grading. Offered Fall, Spring.
SPE 484/584 Cr.11
**Student Teaching Cross-Categorical Special Education: Early Adolescence-Adolescence**
This student teaching experience is a full-day (18-week) experience in a public school special education or inclusionary general education classroom setting. Students are placed in a state-approved special education program serving students identified with disabilities (specific learning disabilities, emotional/behavioral disabilities, and/or cognitive disabilities) at the early adolescence-adolescence age level. This experience provides a setting in which students are to demonstrate teaching and assessment abilities related to students with special needs. Students work under the immediate supervision of a certified teacher and a university supervisor. This course is designed for persons seeking initial licensure in early adolescence-adolescence and cross-categorical special education at early adolescence-adolescence level. Prerequisite: concurrent enrollment in SPE 430/530. Completion of special education courses and all education requirements, including special methods courses; appropriate education faculty recommendation; 2.75 cum GPA and 2.75 GPA in major, minor, concentrations & professional coursework; passing scores in Praxis II content areas; passing scores in WI Foundations of Reading Test. Consent of department. Satisfactory/Unsatisfactory grading. Offered Fall, Spring.

SPE 715 Cr.3
**Special Education and the Law**
A study of the law as it relates to access to meaningful educational opportunity for exceptional children. Emphasis will be on the implementation of Wisconsin and federal legislation mandating special education and related services as well as relevant judicial decisions. Prerequisite: admission to graduate Special Education Program or School Psychology Program. Offered Spring.

SPE 750 Cr.1-3
**Guided Learning in Special Education**
Study of a significant problem, development of a professionally related competency, or acquisition of job-related knowledge through on-or off-campus investigation/experience under the direct supervision of a faculty member. Students may be formed into classes for group discussion of experiences. Repeatable for credit - maximum six. Offered Occasionally.

SPE 761 Cr.2
**Research and Seminar in Special Education**
Consideration of current research trends, and problems in teaching in a special education setting. As part of the requirements for this course and for the degree, each student must complete an acceptable seminar paper. Consent of department. Offered Fall, Spring.

SPE 780 Cr.1-3
**Seminar in Special Education**
Reading and discussion of selected topics, current trends, and issues in special education. Consent of instructor. Offered Fall, Spring, Summer.

SPE 783 Cr.5
**Student Teaching: Cross-Categorical Special Education: Middle Childhood/Early Adolescence**
This student teaching experience is a full-day experience in a public school special education or inclusionary general education classroom setting. Students are placed in a state-approved special education program, serving students identified with disabilities (specific learning disabilities, emotional/behavioral disabilities, and/or cognitive disabilities) at the middle childhood/early adolescence developmental range. This experience provides a setting in which students are to demonstrate teaching and assessment abilities related to students with special needs. Students work under the supervision of a certified teacher and a university supervisor. Prerequisite: completion of all special education core courses and certification option courses; to be taken concurrently with SPE 786. Satisfactory/Unsatisfactory grading. Offered Fall, Spring.

SPE 784 Cr.5
**Student Teaching: Cross-Categorical Special Education: Early Adolescence/Adolescence**
This student teaching experience is a full-day experience in a public school special education or inclusionary general education classroom setting. Students are placed in a state-approved special education program, serving students identified with disabilities (specific learning disabilities, emotional/behavioral disabilities, and/or cognitive disabilities) at the early adolescence/adolescence age level. This experience provides a setting in which students are to demonstrate teaching and assessment abilities related to students with special needs. Students work under the immediate supervision of a certified teacher and a university supervisor. Prerequisite: completion of all special education core courses and certification option courses; to be taken concurrently with SPE 786. Satisfactory/Unsatisfactory grading. Offered Fall, Spring.

SPE 786 Cr.2
**Graduate Seminar in Special Education**
This course provides students, currently enrolled in a practica, to have directed discussions regarding issues that are occurring in the special education or inclusionary general classroom settings. Students will meet to discuss their experiences with other students having similar learning experiences. Prerequisite: Completion of all special education core courses and certification option courses; to be taken concurrently with SPE 783 or SPE 784. Pass/Fail grading. Offered Occasionally.

SPE 796 Cr.1-2
**Directed Studies**
Directed readings or presentation of material not available in formal departmental courses. Repeatable for credit - maximum four. Offered Occasionally.

SPE 799 Cr.2-6
**Research: Master’s Thesis**
Independent study on a problem selected for a thesis, under the direction of an assigned staff member. Attendance at class meetings of SPE 761 is expected on enrollment. Repeatable for credit - maximum six. Offered Fall, Spring, Summer.
Courses

SAA 700 Cr.1-3
Professional Practice in Student Affairs
This course provides an overview of the values, professional standards, and competencies used throughout the student affairs administration profession. The course explores a wide range of student affairs functional areas and related professional organizations. Scholarly writing expectations and APA Style guidelines are a focus of the course to further develop students’ written communication skills. Prerequisite: admission to student affairs administration in higher education MSED program. Offered Fall, Summer.

SAA 701 Cr.1-3
Student Affairs and Technology
This course will focus on the use of digital tools, resources, and technologies for the advancement of student learning, development, and success as well as the improved performance of student affairs professionals. It will include knowledge, skills, and dispositions that lead to the generation of digital literacy and digital citizenship within communities of students, student affairs professionals, and colleges and universities as a whole. Prerequisite: admission to student affairs administration in higher education MSED program. Offered Fall, Spring.

SAA 702 Cr.3
Student Development Theory
This course provides a foundation for current college student developmental theories which provides insight into the processes of student learning, growth, and development during the college years. Emphasis is placed on the application of developmental theories to diverse college populations and environments, as well as understanding the implications of these models for the policies and practices of higher education. Prerequisite: admission to student affairs administration in higher education MSED program. Offered Fall, Summer.

SAA 704 Cr.3
Leadership in Higher Education
This course provides an overview of a variety of leadership theories, emphasizing those with practical application for meeting the challenges confronting student affairs professionals in higher education. Several leadership theories will be reviewed, including (but not limited to) trait leadership, political leadership, systems leadership, transformative leadership, and servant leadership. Course participants will explore the ways in which gender, race/ethnicity, and other identities shape how leadership is expressed and received. Prerequisite: admission to student affairs administration in higher education MSED program. Offered Fall, Spring.

SAA 705 Cr.3
History of Higher Education
This course introduces students to the history of higher education in the United States from the Colonial era to the early 21st Century. The study of the history of higher education serves as a way to develop critical thinking skills in the academic discipline and profession of student affairs. Understanding how values, beliefs, assumptions, ideas, and other forces (such as people, culture, society, politics or economics) have shaped US higher education is a core component of the course. Of critical importance is an examination of the history of marginalized groups in higher education and an examination of the impact of federal higher education policy on the development of higher education in the US. The course provides a conceptual understanding of the dynamics of higher education rather than the memorization of “facts” and names. Prerequisite: admission to student affairs administration in higher education MSED program. Offered Fall, Spring.

SAA 706 Cr.3
Advising and Supporting
This course introduces students to the knowledge, skills, and dispositions related to providing advising and support to individuals and groups through direction, feedback, critique, referral, and guidance. Students will apply theoretical knowledge to practice by developing advising and supporting strategies that take into account self-knowledge and the needs of others to advance the holistic wellness of self, students, and colleagues. Course content will also focus on appropriate crisis management response and applicable policies and ethical guidelines related to advising and student support. Prerequisite: admission to student affairs administration in higher education MSED program. Offered Fall, Spring.

SAA 708 Cr.3
Diversity in Higher Education
This course provides a critical understanding of diversity issues in American higher education and student affairs. The course will review the diversity of institutions, student experiences, and student identities, with a focus on how that diversity enriches and adds value to the learning environment. The course introduces the concept of social justice work in student affairs, which involves both responding to students in a culturally competent manner as well as shaping institutional environments, policies, and practices to achieve more equitable outcomes. By the end of this course, students should deepen their equity, diversity, and inclusion competencies; and understand their own agency and social responsibility inclusive of others, their community, and the larger global context. Prerequisite: admission to student affairs administration in higher education MSED program. Offered Fall, Spring.

SAA 710 Cr.3
Administration in Higher Education
An introduction to the study of administration including the topics of governance, supervision, budgeting, human resource practices, sustainability, and conflict resolution. This course emphasizes knowledge and skills necessary to become an effective mid-level manager. Prerequisite: admission to student affairs administration in higher education MSED program. Offered Fall, Spring.

SAA 715 Cr.3
Student Development Theory II
Serves as an advanced student development course. This course will look at new/current developmental theories. In addition, there will be concentration on application of developmental theories, including tools used to assess student development based on the theories studied. Prerequisite: SAA 702. Offered Spring.

SAA 720 Cr.1-3
Special Topics in Student Affairs Administration
Special topics in Student Affairs Administration not covered by present SAA courses. The particular topic selected will be determined by the SAA faculty according to current need and interest. Repeatable for credit – maximum six. Prerequisite: admission to student affairs administration in higher education MSED program. Offered Spring.

SAA 730 Cr.3
Legal Aspects of Student Affairs
This course will include an overview of legal issues in student affairs. The application of educational law, legal risks and the responsibilities of student affairs professionals in higher education will be addressed. Prerequisite: admission to student affairs administration in higher education MSED program. Offered Fall, Spring, Summer.
SAA 740 Cr.3
**Organization Theory & Behavior**
Areas to be studied include: group dynamics, behavioral organization, leadership, formal organizational theory, applied qualitative and quantitative research, organizational diagnosis, organizational design, organizational change, decision making and conflict resolution.
Prerequisite: admission to student affairs administration in higher education MSED program. Offered Fall, Spring.

SAA 745 Cr.3
**University Finance and Governance**
This course provides an overview of university finance and governance processes from both a historical and current perspective. Internal and external influences on the university budget are a key component of the course. This course will examine issues involving resource management and principles of policy-making in higher education and student affairs. The shared governance process for colleges and universities and the institutional relationships between governing boards, executive leadership, faculty senate, staff councils, and student associations are also included. Prerequisite: admission to student affairs administration in higher education MSED program. Offered Fall, Spring.

SAA 750 Cr.3
**Current Theories & Applications of Career Dev**
Emphasis is upon an understanding of current theories of career development and their implications for practice in a college setting. The course provides the opportunity to explore both professional and personal applications of career development theory. Offered Occasionally.

SAA 761 Cr.3
**Applied Research in Student Affairs**
Principles of applied research, evaluation, and assessment in student affairs. Content includes an overview of research methods, statistical analysis, evaluation, assessment, and technology applications for research in higher education. Prerequisite: admission to student affairs administration in higher education MSED program. Offered Fall.

SAA 765 Cr.3
**Assessment in Student Affairs**
This course introduces students to the critical issues and practice of assessment and program evaluation in student affairs. The course reinforces the need to make data-driven decisions about how to best work with students at both two and four-year institutions. Course content will focus on assessment goals, methodologies to assess student learning and program outcomes, systemic program evaluation, identifying research questions associated with assessment and evaluation, and conducting critical reviews of existing research related to issues in student affairs. Prerequisite: admission to student affairs administration in higher education MSED program. Offered Fall, Spring, Summer.

SAA 775 Cr.1-3
**Student Affairs Practicum**
Practical experience in and understanding of administrative or programming functions within student affairs under professional supervision. The training may be received on campus or at another university or agency. Emphasis is on the administrative/management or programming functions of the university. Specific competencies in budget management, facilities management, personnel management, or educational programming may be addressed. The student will spend a minimum of 70 hours per credit at the site. Repeatable for credit – maximum six. Prerequisite: admission to student affairs administration in higher education MSED program. Pass/Fail grading. Offered Fall, Spring, Summer.

SAA 780 Cr.1-3
**Applied Research Project**
This course will involve students in the development of a research, assessment or evaluation project that has practical application for student affairs in a higher education setting. Students will be expected to apply the knowledge gained in the coursework to a specific issue in student affairs. Prerequisite: admission to student affairs administration in higher education MSED program. Offered Fall, Spring, Summer.

SAA 781 Cr.3
**Student Affairs Administration Internship**
Practical experience and training within student affairs under professional supervision. The training may be received on campus or at another university or agency. The intern will spend a minimum of 210 hours in the department or internship. Repeatable for credit – maximum six. Prerequisite: admission to student affairs administration in higher education MSED program. Pass/Fail grading. Offered Fall, Spring, Summer.

SAA 790 Cr.3
**Capstone in Student Affairs Administration**
This course provides an avenue for culminating and integrating the graduate program experience through the exploration and analysis of contemporary concerns in higher education and student affairs. To be taken during the student’s final semester. Prerequisite: admission to student affairs administration in higher education MSED program. Offered Spring.

SAA 795 Cr.1-2
**Independent Study in Student Affairs Administration**
Independent study and completion of a paper on a topic approved and directed by a SAA faculty member. Repeatable for credit – maximum four. Prerequisite: admission to student affairs administration in higher education MSED program. Offered Fall, Spring, Summer.

SAA 799 Cr.1-6
**Research: Master’s Thesis**
Independent study and completion of a thesis on a topic approved and directed by a SAA faculty member. Must complete a total of six credits. Prerequisite: admission to Student Affairs Administration in Higher Education program; SAA 761. Pass/Fail grading. Offered Fall, Spring.

SAA 800 Cr.3
**21st Century Learners**
This course provides advanced graduate students with a comprehensive understanding of theories and research related to student development in higher education, with attention paid to the ways in which college student enrollment patterns are shifting, and thus, college student identity development is more diverse and ever evolving. Student development theories and enrollment trends in higher education will help students better understand the complexities and differences among and between traditional and emerging college students. Course readings and activities focus on the experiences of students of diverse backgrounds, including working students, veterans, part-time students, and online students. Prerequisite: admission to Ed.D. Program in Student Affairs Administration and Leadership. Offered Summer.
SAA 805 Cr.3  
**Organization and Governance**  
This course provides an overview of organizational and governance structures in higher education by examining how institutions are organized, governed and influenced by internal and external policymakers and stakeholders. How these stakeholders drive change in the organization and governance of higher educational institutions will be explored. A variety of institutional types (community colleges, technical colleges, liberal arts colleges, comprehensive universities, research universities) and funding models (public, private non-profit, private for-profit) will be considered, along with theoretical principles of organizational theory. Prerequisite: admission to Ed.D. Program in Student Affairs Administration and Leadership. Offered Summer.

SAA 808 Cr.3  
**Enrollment Management**  
Student affairs administrators play a major role in ensuring the success and viability of their institutions through their work in enrollment management. Understanding factors that shape students’ college choice are key components of successful enrollment management, as are institutional decisions regarding marketing, recruitment, and admission of students. Ways in which institutions use financial aid, grants, and tuition discounting to assist students in deciding which institution to attend are examined. Enrollment management is concerned with the student mix, ensuring the student class is diverse, talented, and able to contribute to the education of all students at the institution. Student success is an equally important aspect of enrollment management. An examination of ways in which institutions support student success is included in this course. In addition, the intersection of enrollment management and institutional finances is explored. Access, retention, and graduation are key measures used to evaluate the success of an institution’s enrollment management policies. Identification of strategic institutional enrollment management plans based on enrollment management theory, frameworks, and orientations will be explored. Prerequisite: admission to Ed.D. Program in Student Affairs Administration and Leadership. Offered Summer.

SAA 810 Cr.3  
**Philosophical and Theoretical Foundations of Leadership in Education**  
This interdisciplinary course provides a foundation for the development of personal and professional leadership style grounded in the evolution of leadership theory and reflective of the influence of social locations and identities. Through exposure to recognized leaders in education and other fields, students will postulate what leadership principles resonate with their area of work and study. Students will engage in interdisciplinary analyses of leadership theories and philosophies, and will examine the complex ethical and professional responsibilities within professional and community relationships. Prerequisite: admission to Ed.D. Program in Student Affairs Administration and Leadership. Offered Fall.

SAA 820 Cr.3  
**Critical Analysis of Systemic Inequities: Challenges of Social Justice**  
From pre-kindergarten through college, institutions of education struggle with creating equitable outcomes for underrepresented and/or marginalized groups. This course will study the ways in which educational systems replicate inequitable outcomes, from degree completion gaps for groups of varying ethnic/racial or social class backgrounds, to patterns of gender discrimination in faculty advancement. The course will focus on multicultural organizational development, equity scorecards, multicultural change intervention matrices, and other theories and practices to prepare educators to cultivate more equitable educational systems in the U.S. The focus is less on individual forms of diversity and more on systemic or institutional efforts to achieve greater equity. Prerequisite: admission to Ed.D. Program in Student Affairs Administration and Leadership. Offered Spring.

SAA 825 Cr.3  
**Finance and Budgeting**  
Solid fiscal management is a critical skill for effective leadership in student affairs units in higher education. This course prepares student affairs administrators for effective fiscal management by examining revenue sources and expenditures, the reasons for rising college prices, the challenges associated with accessibility and affordability, and the roles of states, the federal government, and institutions in financing higher education. The course also explores ways to increase cost effectiveness and institutional and departmental budgeting processes. Prerequisite: admission to Ed.D. Program in Student Affairs Administration and Leadership. Offered Spring.

SAA 830 Cr.3  
**Qualitative Research Methods**  
This course is designed to give students more applied knowledge and experience with developing and implementing an independent qualitative research study. This course aims to enhance student development in qualitative research design, data collection, analysis, and reporting. The course will cover key theoretical concepts and methodological approaches to qualitative inquiry. Students will complete a sample qualitative research project from the initial stages of conceptualization of the study to the reporting of findings. Prerequisite: admission to Ed.D. Program in Student Affairs Administration and Leadership. Offered Spring.

SAA 835 Cr.3  
**Assessment and Program Evaluation**  
This course focuses on the art of assessment in student affairs, including setting assessment goals, designing an assessment project, selecting methods for data collection and analysis, interpreting and reporting findings, as well as evaluating program effectiveness with assessment results. In recent years, student affairs units across the U.S. have vastly increased their engagement and inquiries about the college student experience, including student preparation for college, their needs and satisfaction once on campus, their attitudes and behaviors, their membership in distinct student cultures, their usage of campus services, and their overall experience and success. The need to make data-driven decisions about how to best serve and develop college students has stemmed from political, societal, and fiscal pressures. As a result, doctoral students must develop their skills and knowledge to lead institutional or unit efforts in assessment on their own campuses. Prerequisite: admission to Ed.D. Program in Student Affairs Administration and Leadership. Offered Summer.
SAA 840 Cr.3
Supervision and Human Resource Management
Preparation and leading a diverse workforce for a changing higher education environment can be challenging. Leadership in student affairs requires effective management of our greatest resource - personnel. This course applies leadership theories learned earlier in the program through an applied approach to the management of people in complex organizations. Included is a review of various methods of recruitment, selection, and orientation of new personnel as well as performance management, compensation, supervision, training, and development of existing personnel. Prerequisite: admission to Ed.D. Program in Student Affairs Administration and Leadership. Offered Fall.

SAA 845 Cr.3
Quantitative Research Methods
This course will focus on understanding the concepts of design and analysis of quantitative research in student affairs. The course reviews methodological considerations for experimental, quasi-experimental, and correlational research with a focus on understanding issues of causal inference, sampling, validity, measurement, hypothesis testing, analytic strategies and reporting. We will use readings of experimental and non-experimental research studies on a range of issues in the field of student affairs in order to critically evaluate the strengths and weaknesses of various research design and analytic choices. Through these readings students will learn to engage in scholarly critiques of quantitative research, conduct a methodological review of quantitative research in an area of interest, and form a foundation for understanding and developing methodologically sound quantitative research. Prerequisite: admission to Ed.D. Program in Student Affairs Administration and Leadership. Offered Fall.

SAA 855 Cr.3
Specialized Study
This course is part of the Ed.D. in Student Affairs Administration and Leadership program and is designed to provide specialized study in a unique area of interest offered by one of the university partners in the UW System Collaborative Ed.D. program. Prerequisite: admission to Ed.D. Program in Student Affairs Administration and Leadership; approval of faculty advisor for applicability of course to Ed.D. Offered Fall, Spring, Summer.

SAA 865 Cr.3
Strategic Planning and Managing Change
In this course, students will explore strategic institutional and programmatic planning to enhance institutional effectiveness. A major goal of this course will be to ensure an understanding of and appreciation for the range of approaches that can be taken to strategic planning in tandem with change management theory and application. Course participants will become familiar with current best practices in strategic planning and change management that support the drive toward institutional effectiveness. Prerequisite: admission to Ed.D. Program in Student Affairs Administration and Leadership. Offered Fall.

SAA 870 Cr.3
Policy and Regulatory Compliance
Creating an institutional culture of compliance, centered on a strong compliance program that addresses and coordinates all requirements with which the institution must comply, is a key function of higher education administrators. This course will provide student affairs administrators with knowledge and resources about laws, regulations, and institutional policies that support best practices in institutional strategies for creating a safe environment for student learning. Prerequisite: admission to Ed.D. Program in Student Affairs Administration and Leadership. Offered Fall.

SAA 875 Cr.3
Organizational Communication
Administrative leaders are required to manage people and the flow of information in ways that keep the campus community informed while also respecting confidentiality and sensitivity to institutional risk. Understanding how people communicate, how good working relationships are formed and maintained, how to develop cohesive work groups, and how to communicate are essential characteristics of successful administrators. This course will focus on organizational structure and theory, as well as on group dynamics and interpersonal communication as applied to post-secondary institutions. Prerequisite: admission to Ed.D. Program in Student Affairs Administration and Leadership. Offered Summer.

SAA 898 Cr.1-3
Special Topics in Student Affairs Administration and Leadership
Special topics of interest to professionals in the field of Student Affairs are offered in this course. Topics change as needed. Prerequisite: admission to Ed.D. Program in Student Affairs Administration and Leadership. Offered Occasionally.

SAA 950 Cr.3
Dissertation Seminar
The purpose of this seminar is to mentor and support students as they draft their dissertation proposals. The seminar format will allow students to explain a rationale for their topic choice, discuss design decisions for their systematic inquiry, share work in progress, and receive feedback from peers and the instructor. This course will also introduce the student to processes such as how to develop and articulate a focused dissertation topic, structure a dissertation proposal, conduct a literature review, prepare for the ethics of fieldwork and submit a proposal to the Institutional Review Board, and clearly articulate a study's design. Prerequisite: SAA 830, SAA 845. Offered Summer.

SAA 990 Cr.3
Dissertation I
This course builds on the foundation established in SAA 950, Dissertation Seminar, and is designed to continue support of the Ed.D dissertation. Prerequisite: SAA 950. Pass/Fail grading. Offered Fall, Spring, Summer.

SAA 995 Cr.1-3
Dissertation II
This course supports the completion of a dissertation as required for the Ed.D. in Student Affairs Administration and Leadership. Prerequisite: SAA 990. Pass/Fail grading. Offered Fall, Winter, Spring.

Teaching English to Speakers of Other Languages (TSL) - Graduate Courses
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<td>RTH 403/503 Cr.3</td>
<td>Helping Children Cope with and Manage Pain</td>
</tr>
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<td>RTH 404/504 Cr.3</td>
<td>Coping with Pediatric Disabling Condition</td>
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<tr>
<td>RTH 456/556 Cr.3</td>
<td>Program Design and Administration of Therapeutic Recreation</td>
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RTH 462/562 Cr.3
Inclusive Recreation Program Administration
This course is designed to provide the student with information relating to recreation in inclusive settings. General administration concepts, management concepts, advocacy, legislation, and therapeutic recreation as a related service in the schools will receive special emphasis in this course. Prerequisite: RTH 456/556. Offered Fall, Spring.

RTH 470/570 Cr.3
Facilitation Techniques in Therapeutic Recreation
This course presents an overview of concepts and interaction techniques used in the provision of goal-oriented therapeutic recreation services. Included are counseling techniques, leadership and instructional techniques appropriate for use in treatment, leisure education, and recreation participation. Prerequisite: MTH 145; RTH 326 or RTH 327 and RTH 456/556 or concurrent enrollment. Offered Fall, Spring.

RTH 474/574 Cr.3
Experiential Education: Facilitation Techniques for a Ropes Course
This course is designed to present in-depth information, skills and knowledge of the concepts and facilitation techniques used in experiential education. This course is primarily designed using the ropes and challenge course on the UWL campus. Prerequisite: students must provide a statement of health and complete an assumption of risk/waiver. Offered Occasionally.

RTH 476/576 Cr.3
Assessment and Treatment Planning in Therapeutic Recreation
Overview of individual client assessments used in therapeutic recreation practice; development of individualized treatment/program plans in a therapeutic recreation context; review resources, standards and issues related to client assessment and program planning in therapy, leisure education and recreation participation programs. Prerequisite: RTH 456/556, RTH 470/570. Offered Fall, Spring.

RTH 480/580 Cr.3
Leisure Education
This course is designed to provide a philosophical understanding and overview of leisure education as well as to emphasize the approaches and strategies that can be utilized in enabling people to enhance the quality of their own lives in leisure. The focus will be leisure education as a major component of therapeutic recreation services. Topics included are leisure theory, leisure education conceptual models, leisure education programming techniques, facilitation of leisure education groups for various ages. Prerequisite: RTH 456/556, RTH 470/570. Gerontology students should have completed one core gerontology course and have permission from the director of therapeutic recreation. Offered Fall.

RTH 483/583 Cr.3
Leisure Counseling in Therapeutic Recreation
A course designed to demonstrate how leisure counseling has become an important phase of therapeutic recreation services. Students will practice intermediate level counseling skills. They will be able to conceptualize and implement leisure counseling services from assessment stage, implementation stages (both individual and group), to evaluation and referral stages. Students will learn strategies for dealing with different types of leisure-related problems. Prerequisite: RTH 470/570 and RTH 480/580. Offered Occasionally.

RTH 491/591 Cr.2
Workshops in Therapeutic Recreation
Group study of varying therapeutic recreation topics. University professors as well as visiting lecturers will be invited to address the students and conduct specialized phases of the workshops. Repeatable for credit under different subtitles. No student may earn more than six credits in REC 591 or RTH 591. Offered Occasionally.

RTH 493/593 Cr.3
Therapeutic Recreation Trends and Issues
This course provides an examination of current issues, trends and professionalization concerns in therapeutic recreation, including professional organizations, ethics, current legislation, professional development, professional standards, credentialing, accreditation standards, improving organizational performance, and current professional controversies. Course should be taken last fall semester prior to internship. Prerequisite: MTH 145 and RTH 456/556. Offered Fall, Spring.

RTH 700 Cr.1-6
Internship in Therapeutic Recreation
Application of therapeutic recreation leadership and administration methods/techniques through an on-the-job or laboratory experience. Study of a significant problem, development of professionally related competencies, and/or acquisition of job-related knowledge. Conducted on or off-campus under the direction of a faculty member. Repeatable for credit - maximum six. Prerequisite: therapeutic recreation graduate student, RTH 456/556, RTH 470/570, RTH 476/576, RTH 480/580, or equivalents and/or approval of graduate program director and internship coordinator. Offered Fall, Spring, Summer.

RTH 702 Cr.3
Foundations in Therapeutic Recreation
This course will provide a graduate level overview of Therapeutic Recreation including: historical and philosophical foundations of Therapeutic Recreation; disability education and medical language; and Service Learning applications. This course is specifically designed to help Therapeutic Recreation graduate students who do not have a Therapeutic Recreation undergraduate degree. Offered Fall.

RTH 730 Cr.3
Advanced Clinical Aspects/Therapeutic Recreation
An investigation of the concepts and techniques utilized by the experienced and advanced Therapeutic Recreation Specialist including clinical issues, comprehensive program concerns, administrative functions and trends in the practice of therapeutic recreation service. Offered Fall.

RTH 790 Cr.1-3
Advanced Seminar - Therapeutic Recreation
Various current professional and theoretical topics will be presented in workshop format. Visiting scholars will supplement faculty presentations. Repeatable for credit - maximum six. Offered Occasionally.

RTH 795 Cr.1-3
Independent Study in Therapeutic Recreation
Individualized study of areas not available in existing courses. Repeatable for credit - maximum six. Consent of instructor. Consent of department. Offered Fall, Spring, Summer.

RTH 797 Cr.1-3
Special Projects in Therapeutic Recreation
Students pursue individualized study areas not available in existing courses or independent study. These projects will be completed under the supervision and direction of a faculty member within the department of recreation management and therapeutic recreation. Examples include: wheelchair sports/coaching, special recreation programs, Special Olympics, development of professional materials/programs, and other topics. Repeatable for credit - maximum six. Prerequisite: RTH 456/556; consent of instructor and student’s advisor. Consent of instructor. Offered Fall, Spring, Summer.
Women's, Gender, and Sexuality Studies (WGS) - Graduate Courses

Courses

WGS 530 Cr.1-3
Topics: Women, Gender and Society
Interdisciplinary analysis of a social issue, idea, or institution from the perspective of women's, gender, and sexuality studies. Repeatable for credit - maximum nine. Offered Occasionally.

WGS 795 Cr.1-3
Directed Studies
Directed reading or research with the guidance of an instructor. Repeatable for credit - maximum six. Consent of student's regular advisor. Consent of instructor. Offered Fall, Winter, Spring, Summer.
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