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The University reserves the right to change any provision or requirement at any time.
The provisions of this publication are not to be regarded as an irrevocable contract between the student and WSU.
The University reserves the right to make changes of an editorial nature to correct or amend the text of this catalog.
1. Maxwell Hall: Conference Center; Children’s Center; One-Stop Center; Career Services; Department of Health, Exercise & Rehabilitative Sciences; and administrative offices.
2. Stark Hall: College of Nursing and Health Sciences, Departments of Nursing and Engineering
3. Science Laboratory Center
4. Alumni House: Emeriti Center
5. Somsen Hall: College of Business; Departments of Business Administration, Economics & Finance, Foreign Languages, Management of Information Systems & Operations, Marketing; and administrative offices.
6. Howell Hall: Television Studio
7. Phelps Hall: Departments of Mass Communication and Psychology
8. Pasteur Hall: College of Science & Engineering; Departments of Biology, Chemistry, Geoscience, and Physics
9. Watkins Hall: Departments of Computer Science and Art
10. Conway Hall: Women’s residence hall
11. Shepard Hall: Co-ed residence hall
12. Morey Hall: Co-ed residence hall
13. Richards Hall: Co-ed residence hall
14. Lucas Hall: Women’s residence hall
15. Prentiss Hall: Men’s residence hall
16. Gildemeister Hall: College of Education; Departments of Counselor Education, Education, Mathematics & Statistics, Special Education
17. Performing Arts Center: Departments of Communication Studies, Music, Theatre and Dance
18. Memorial Hall: Departments of Physical Education & Sport Science; Recreation, Tourism & Therapeutic Recreation; Dance Studio
19. Darrell W. Krueger Library: Student Support Services, Tutoring Services, and University Archives
20. Minné Hall: College of Liberal Arts; Departments of English, History, Philosophy, Political Science, Social Work, and Sociology
21. Kryzsko Commons and Student Center
22. Sheehan Hall: Women’s residence hall
23. Maintenance Building
24. Heating Plant
25. Maxwell Field at Alltel Stadium
26. Wabasha Hall: Counseling Center, Fitness Center, and Student Health

WEST CAMPUS
- Lourdes Hall: Co-ed residence hall, Residential College
- Maria Hall: Co-ed residence hall
- Tau Center: Co-ed residence hall, conferencing facility

Note: All buildings and parking lots accessible to the handicapped. All buildings except the Alumni House (5) are equipped with elevators. Call (507) 457-5008 to pre-arrange access.
WELCOME!

It is my pleasure to welcome you to Winona State University! I have been here three years now, and I am more excited than ever about what we have to offer our students and the community we serve. You join us as we are completing the celebration of our Sesquicentennial Year. A lot has happened since 1858 when the University was founded. We are exploring what our history can teach us, and we are looking ahead and thinking about what the next century will bring. We are glad to welcome you to WSU at such a special time.

WSU is recognized as a national leader in higher education. We continually strive for inclusive excellence in every aspect of University life. Our mission is to educate and enlighten our citizenry as a distinctive institution: A community of learners improving our world. I encourage you to become familiar with our mission statement. You will see it on banners all around campus. Pause a moment as you walk by those banners—now carrying our sesquicentennial flame—and think about helping us become a community of learners who can, indeed, make a difference in the lives of others. I believe that this mission will inspire you and guide you along your exciting journey at WSU.

We set high expectations for ourselves—administrators, faculty, staff, and students. We expect students to be dedicated to active learning, standards of excellence, cooperative learning, and personal growth and development. We expect you to take your education seriously. By incorporating these fundamental expectations into your daily life, you will contribute to your own success as well as the success of the University. In return, you can expect our faculty and staff to take you seriously and to help you find your own path that will bring meaning and purpose to your experience here. (To learn more about the University's expectations, visit www.winona.edu/handbook/expectations.htm.)

You are joining WSU as we undertake a grand challenge, to enhance the experience of all our students. For three years, the campus community has been thinking about what it means to be educated in the 21st century, what you will need to know as you prepare for life in a rapidly changing world, and how we can join you in that journey. By our own actions and how we live out our values, we want to show you what it means to live responsible, productive, and creative lives, inspired by what we learn and by the people we meet.

I hope your time at WSU will be both challenging and inspiring. May your time here offer you many wonderful experiences that you will cherish in the years to come, as you, in turn, reach out to enrich the lives of others.

Best regards,

Judith A. Ramaley, President

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From Minneapolis/St. Paul
Take U.S. Hwy. 61 south into Winona. Stay on 61 to Huff Street. Turn left on Huff; then take a right on Sarnia Street. Turn left onto Main Street at four-way stop. Cross the railroad tracks, go one block, turn left on Mark Street. You are on campus.

From the west via Interstate 90
Take I-90 east to the Hwy. 43 North exit (252). Turn left on Hwy. 43, which brings you into Winona. At the stoplight, take a left on Hwy. 17 (Homer Rd.) and go to the stoplights. Turn left on U.S. Hwy. 14/61. Follow 61 to Huff Street. Turn right on Huff; then take a right on Sarnia Street at stoplight. Turn left on Main Street at four-way stop. Cross the railroad tracks, go one block, turn left on Mark Street. You are on campus.

From La Crosse, Madison, Milwaukee, Chicago
Take Interstate 90/94 west to La Crosse and into Minnesota. Take the “to Winona” exit on U.S. Hwy. 61 and follow into Winona. Stay on 61 to Huff Street. Turn left on Huff; then take a right on Sarnia Street. Turn left onto Main Street at four-way stop. Cross the railroad tracks, go one block, turn left on Mark Street. You are on campus.

From Rochester, Owatonna, Mankato, and other communities
Via U.S. Hwy. 14. Take U.S. Hwy. 14 east into Winona. Turn right on U.S. Hwy. 14/61. Follow 61 to Huff Street. Turn left on Huff; then take a right on Sarnia Street. Turn left on Main Street at four-way stop. Cross the railroad tracks, go one block, turn left on Mark Street. You are on campus.
Winona State University is committed to providing equal education and employment opportunities to all persons and does not discriminate on the basis of race, color, creed, religion, national origin, sex, age, marital status, status with regard to public assistance, sexual orientation, disability, or any other group or class against which discrimination is prohibited by Title IX of the Education Amendments, 1972, Minnesota Statutes Chapter 363, Section 402 of the Vietnam Era Veteran’s Readjustment Assistance Act, 1974, and other applicable state and federal laws. Inquiries regarding compliance should be referred to the Affirmative Action Officer at (507) 457-5008.
Winona State University is a comprehensive university that offers academically-inspired students an opportunity to obtain an education in the liberal arts and contemporary professions and to explore the application of knowledge to today's world. The University prepares students to be skilled, competent, and active citizens with a strong sense of personal responsibility and motivation to contribute to the communities where they live and work.

Founded in 1858 and located in the beautiful Upper Mississippi River Valley, Winona State University is built on a powerful sense of place and compassion for the human condition. The University offers distinctive graduate and undergraduate programs that reflect the special character of the communities it serves and that contribute to the quality of life in Minnesota and the region through thoughtful research, service, and unique collaborations with the community. Winona State University prepares the leaders of the 21st century to apply their knowledge to effectively solve complex and ever-changing problems. Winona State University is “a community of learners improving our world.”

HISTORICAL VIEW—150 YEARS OF SERVICE

In 2008, Winona State University celebrates its sesquicentennial, marking 150 years of service to students, the community, and the world. The University was founded in 1858 when the first Minnesota State Legislature established normal schools “to prepare teachers for the common schools of the state.” The first tax-supported school west of the Mississippi River was established at Winona to train teachers for the new frontier. Citizens of Winona quickly showed their support with donations of more than $7,000 in money and land.

Classes began in 1860; however, the school closed for nearly three years during the Civil War. It reopened in November 1864 to continue its mission of preparing teachers for the new state of Minnesota. Construction of the school's first building was approved and completed in 1866, and classes were held in College Hall by 1869.

Phelps Hall opened in 1909 with a kindergarten teaching lab, gymnasium, and library. The State Normal School became Winona Teachers College in 1921 and was authorized to grant the bachelor’s degree. In 1926, four students, two men and two women, graduated with the four-year teaching degree. From the 1920s until World War II, significant curriculum changes enhanced the academic quality of teacher education. New courses were added, and departments emerged to organize a growing institution. Intramural and extramural athletics, social organization, and co-curricular activities grew with the student population.

The boom following World War II saw rapid growth. In 1957, the institution became Winona State College; this new name reflected an expanded mission, which included the addition of Bachelor of Arts, Master of Science in Education, and Associate in Arts degrees. In 1975, the school became Winona State University.

Today, the University is structured into five colleges spread across three campuses in Winona and Rochester. It is a member of the Minnesota State Colleges and Universities system. The original Main Campus and the Rochester campus focus primarily on non-traditional students, graduate programs, and the Institute for Lifelong Education.

WINONA STATE UNIVERSITY-
ROCHESTER

Since 1917, Winona State University has served students in Rochester and the surrounding area. In 1993, the University entered into a partnership with Rochester Community and Technical College (RCTC) and the University of Minnesota to establish the University Center Rochester (UCR). Since its inception, over 5,000 bachelor's and master's students have graduated from UCR programs. Today, WSU-Rochester and RCTC offer degree programs from the associate through doctoral level.

On an annual basis, WSU-Rochester serves 2,000 students. Approximately 40 resident faculty and an additional 20 Winona campus faculty are dedicated to the Rochester campus each academic term. Because of the Rochester location, WSU-Rochester offers unique opportunities to collaborate with businesses, schools, and organizations in the area through specialized programs in computer science, health care, business, and education.

SESQUICENTENNIAL OBSERVANCE

In celebration of its sesquicentennial year, the University commissioned a special logo that captures the essence of the WSU journey. Elements of WSU’s sesquicentennial logo recall the powerful legacy associated with the University logo. These elements are integrated into a modern design that reinforces the University’s reputation as innovative and forward-looking.

The prominent flame echoes that of the University logo and represents the enduring “Light of Knowledge.” The flame also suggests light shining the way to future hope and promise. The words “150 years” remind us of the academic excellence forged by the University’s faculty, staff, and students over a century and a half. The line under the name and historical dates reflects the kettle from which the flame rises in the University logo. It suggests a strong foundation and conveys prominence to the words “Winona State University, 1858-2008.”

WSU CAMPUSES

Three campuses make up Winona State University: the original Main Campus in Winona, the West Campus in Winona, and Winona State University-Rochester.

Main Campus

The original Main Campus provides a serene, yet stimulating collegiate environment in the heart of the city of Winona. Tree-lined walkways, fountains, prominent sculpture, and benches invite students and visitors to a learning community in tune with the natural beauty of southeast Minnesota.

The Main Campus provides students ample facilities for educational activities that combine traditional charm with convenience and state-of-the-art technology. All academic buildings are extensively wired for computer access, and wireless Internet access is available throughout the campus. As a feature of the WSU Laptop Program, many classrooms offer data and power connections for each student.

In recent years, WSU has aggressively upgraded facilities and added new buildings specifically designed to support its academic initiatives.
Recent enhancements include:

• Darrell W. Krueger Library: Designed to provide a wealth of information resources and services to the WSU community and beyond. The library holds more than 350,000 volumes and provides access to approximately 50,000 electronic periodicals and texts and over 1 million microfilm documents.

• Kryszko Commons: Expanded and renovated to increase the space available for meeting rooms and to provide additional food venues. Kryszko Commons is the Student Center; it houses dining facilities, lounge and recreation areas, offices for student organizations, and meeting rooms.

• Pasteur Hall: Extensively renovated to support teaching, learning, and discovery in the sciences; the renovation created state-of-the-art dry laboratory, classroom, and office space.

• Science Laboratory Center (SLC): Designed to create much-needed, modern academic space. The SLC has 118,000 square feet of space devoted to laboratories, a multimedia-equipped auditorium, student study spaces, and a vast atrium where even the floor and massive rock wall promote learning opportunities.

• University Apartments at East Lake: Constructed as an apartment complex, East Lake consists of 100 apartments and is home to over 2,500 students. In addition to East Lake, the University complex includes nine residence halls.

West Campus

The West Campus is located about one mile from the Main Campus. West Campus is home to the Residential College, which is located in Lourdes Hall, Maria Hall, and the Tau Center. The Residential College offers a unique living and learning experience with a strong sense of community. Students can take classes, meet with professors, and enjoy cultural experiences on the West Campus while still actively participating in university life on the Main Campus.

Lourdes Hall includes residential, dining, and recreational space. The Tau Center offers 120 completely wired single rooms and conference space with picturesques views of the bluffs and a peaceful setting by Gilmore Creek.

Winona State University-Rochester

Housed with RCTC in a modern, integrated building on the University Center Rochester (UCR) campus, WSU-Rochester features modern classroom facilities and technology-enhanced classrooms. The campus includes a new state-of-the-art Health Sciences building, which has several “smart” rooms, clinical nursing laboratory areas, and high fidelity simulation. Sophisticated technology links WSU-Rochester students with the Winona campuses and the world.

WSU students have access to the Goddess Library, which houses 57,000 volumes, a computer lab, and a laptop rental center. The College Center includes a cafeteria and snack bar and lounge areas. The UCR also includes a recently constructed fitness and recreation center with indoor courts and a running track.

THE COMMUNITIES

Winona

The city of Winona (population 27,000) is nestled among the bluffs of the beautiful Hiawatha Valley on the banks of the Mississippi River—one of the most scenic areas in Minnesota. Once one of the Midwest’s wealthiest cities because of its location on the river, Winona enjoys a rich legacy of historic buildings and vintage homes. The Main Campus and the West Campus are located in the heart of the city, giving students convenient access to shopping, recreation, social activities, and community resources. Additional cultural opportunities are available in La Crosse, Wisconsin (30 miles away), Rochester (45 miles away), and Minneapolis-St. Paul (120 miles away).

In addition to WSU, the city of Winona is home to two other institutions of higher education: Saint Mary’s University of Minnesota and Minnesota State College—Southeast Technical. WSU cooperates with these institutions, as well as institutions throughout the Minnesota State Colleges and Universities system and the University of Minnesota, to enrich the educational and cultural opportunities for students at all institutions by sharing their programs and resources.

Rochester

WSU-Rochester is located on the eastern edge of the city of Rochester, which is a cosmopolitan city of over 100,000 residents. Rochester is consistently branded as one of “America’s most livable cities.” It is home to the world-renowned Mayo Clinic and the largest IBM Corporation facility under one roof. The city offers extensive cultural, dining, shopping, recreational, and sports opportunities; it has the second largest airport in Minnesota.

In addition to WSU-Rochester, several other institutions offer programs in Rochester, including University of Minnesota—Rochester, Saint Mary’s University of Minnesota, Augsburg College, and the Mayo School of Health Sciences.

ACADEMIC MISSION AND GOALS

Winona State University is an exemplary arts and sciences institution with select professional and graduate programs anchored in a general education core. With an enrollment of approximately 8,200 undergraduate and graduate students, WSU is a mid-sized public university committed to small class sizes and challenging, rigorous academic standards.

Faculty and administration are involved with students, facilitate cooperative and active learning, and provide respect for diverse talents and ways of knowing. Faculty are dedicated to creating an optimal learning environment for students by using contemporary technology and by building learning communities, which help students maximize their post-graduation successes. Students acquire disciplinary expertise, enabling them to pursue careers or to enter graduate or professional schools. They learn the value of aesthetics and ethical integrity as well as the importance of becoming community leaders and furthering the public good.

Winona State University recognizes that many learning experiences occur outside the classroom. Therefore, the University is committed to building and maintaining a caring community. Community members strive for amicable relationships based on shared values and an affirmation of the principle of freedom of speech within an atmosphere of civility and mutual respect. Governed by collective bargaining agreements and guided by principled leadership, the University community respects diversity and collaborates to resolve issues that affect all. We celebrate our common successes and our distinctive heritage.

The University is committed to measuring results against self-defined and national standards. Through this ongoing assessment in which students, faculty, and staff participate, WSU will continuously improve and establish accountability for results. Thus, Winona State University reaffirms its social contract to provide educational benefits to the people of Minnesota, the nation, and the world.

ACADEMIC PROGRAMS

Five distinct colleges comprise the University: College of Business, College of Education, College of Liberal Arts, College of Nursing and Health Sciences, and the College of Science and Engineering. Through these colleges, Winona State University offers 64 undergraduate degree programs, 10 pre-professional programs, 18 Master’s (M.S.) degree programs, an Educational Specialist (Ed.S.) degree, a Doctor of Nursing Practice (D.N.P.) degree, and several undergraduate and graduate licensure programs.

All programs are offered by highly qualified faculty in an environment committed to a passion for learning and student service. Approximately 400 faculty members dedicate themselves to delivering rigorous academic programs while maintaining “small school closeness.” Classes average 25 to 30 students; the student-faculty ratio is 21:1.

ACCREDITATIONS AND MEMBERSHIPS

Winona State University is accredited by the following organizations:

• Accreditation Board for Engineering and Technology (ABET)
• American Chemical Society (ACS)
• Commission for Accreditation of Athletic Training Education (CAATE)
• Commission on Collegiate Nursing Education (CCNE)
• Council of Accreditation of Counseling and Related Educational Programs (CACREP)
• Council on Social Work Education (CSWE)
• Higher Learning Commission: North Central Association of Colleges and Schools (HLC)
• National Association of Schools of Music (NASM)
• National Association of Schools of Theatre (NAST)
• National Council for the Accreditation of Teacher Education (NCATE)

Winona State University is recognized by the following organizations:

• Association to Advance Collegiate Schools of Business (AACSB)
• Association for Childhood Education International (ACEI)
• Council for Exceptional Children (CEC)
• National Association for the Education of Young Children (NAEYC)
• National Council for the Social Studies (NCSS)
• National Council of Teachers of English (NCTE)
• National Council of Teachers of Mathematics (NCTM)
Winona State University programs are approved by:
• American Bar Association (Paralegal Program)
• Minnesota Board of Nursing (Entry Level Undergraduate Nursing)
• Minnesota Board of School Administrators
• Minnesota Board of Teaching

UNDERGRADUATE DEGREES AND PROGRAMS

Bachelor of Arts Majors
- Art
- Communication Studies
- Economics
- English
- French
- Geoscience
- German
- Global Studies
- History
- Law and Society
- Mass Communication
- Mathematics
- Music
- Political Science
- Professional Studies
- Psychology
- Sociology
- Spanish
- Theatre Arts

Bachelor of Science Majors (Non-Teaching)
- Accounting
- Athletic Training
- Biochemistry
- Biology
- Business Administration
- Chemistry
- Clinical Laboratory Science
- Composite Materials Engineering
- Computer Science
- Cytotechnology
- Exercise and Rehabilitative Science
- Finance
- Geoscience
- Health Promotion
- Human Resources Management
- Management Information Systems
- Marketing
- Mathematics: Statistics
- Music
- Nursing
- Paralegal
- Physics
- Public Administration
- Recreation, Tourism, and Therapeutic Recreation
- Sociology: Criminal Justice

Bachelor of Science Majors (Teaching)
- Art
- Biology Life Science
- Business Education
- Chemistry
- Communication Arts and Literature
- Earth Science
- Elementary Education
- French
- German
- Health Promotion
- Mathematics: Secondary
- Music
- Physical Education
- Physical Science
- Physics
- Social Science/History
- Spanish
- Special Education
- Teaching English as a Second Language

Bachelor of Social Work
- Social Work

Two-Year Undergraduate Associate in Arts

Special Licensure Programs
- Developmental/Adapted Physical Education

Pre-Professional Sequences
- Pre-Dentistry
- Pre-Engineering
- Pre-Law
- Pre-Medicine
- Pre-Optometry
- Pre-Pharmacy
- Pre-Physical Therapy
- Pre-Physician Assistant
- Pre-Podiatry
- Pre-Veterinary Medicine
ADMISSIONS

Types of Admission

Depending on their class rank, ACT/SAT scores, and high school curriculum, students are awarded either distinctive or university admission status at WSU.

• Distinctive Admission: Students are admitted with distinction if they rank in the upper 15 percent of their high school graduating class and have an ACT score of 26 or above or an SAT score of 1100 or above and have completed the 16 units of high school preparation requirements.

Students admitted with distinction attend an orientation and registration program during the late spring preceding their first year at Winona State University.

• University Admission: Students are admitted with university admission status if they have an ACT score of 21 or above or an SAT score of 1000 or above and have completed the 16 units of high school preparation requirements.

Students who score an 18, 19, or 20 composite on the ACT must also be ranked in the top 50% of their graduating class.

Students admitted with university admission status attend an orientation and registration program during the mid-summer preceding their first year at Winona State University.

Proof of Immunization

Minnesota Law (M.S. 135A.14) requires that all students enrolled in public or private post-secondary school in Minnesota be immunized against diphtheria, tetanus, measles, mumps, and rubella—allowing only for certain specified exemptions. See “Student Health Service” on page 32 for more information about the requirements related to immunizations and medical history.

Appeals Process

First-year applicants coming directly from high school who do not meet the admission requirements because of special and unique circumstances may be considered for admission by special appeal. If unusual circumstances exist, the student should first complete the regular application process. Then, if the student is denied admission to the University, he or she should write a letter of appeal to the Director of Admissions. This letter should outline the unique circumstance and should be supported by appropriate documentation and two letters of recommendation from high school faculty.

TRANSFER STUDENT ADMISSION

Preparation for Transfer to WSU

Minnesota’s technical colleges, community colleges, and universities are working to make transfer easier. Students can help by planning ahead, asking questions, and using pathways created by transfer agreements.

Students who are enrolled in a college or university should first discuss their plans with a campus transfer specialist on their own campus. Whether currently enrolled in school or not, a student considering transfer to WSU should:

1. Contact the WSU Office of Admissions and consult the Minnesota Transfer website at www.mntransfer.org. The student should ask for the following materials and information:

   • Transfer brochure and application.
   • Information about admission criteria and materials required for admission (e.g., portfolio, transcripts, test scores). Note that some majors have limited enrollments or their own special requirements such as a higher grade point average.
   • Information about financial aid (how to apply and by what date).

2. After reviewing the materials, make an appointment to visit with a transfer counselor specialist at Winona State University. Be sure to ask about course transfer and admission criteria.

Note: Although WSU does not offer correspondence courses, the University will transfer correspondence courses from accredited colleges and universities.

Admission Requirements for Transfer Students

The following information applies to students who are transferring from a community college or a four-year college with regional accreditation for college-parallel courses:

• Students are admitted if they have completed 24 transferable academic semester hours and have a cumulative 2.40 GPA for all colleges attended.

• Students may be considered for admission to WSU if they have completed 24 transferable academic semester hours and have a cumulative GPA of 2.20 to 2.39 for all colleges attended. Students who meet these criteria must visit the campus and interview with a transfer specialist.

NEW FIRST-YEAR STUDENT ADMISSION

High School Preparation Requirements

To be considered for admissions to WSU, students must have completed the following high school curriculum in grades 9-12:

• 4 years of English (includes composition, literature, and speech).

• 3 years of mathematics including 2 years of algebra and 1 year of geometry.

• 3 years of science including 1 year of biology and 1 year of either chemistry or physics. All courses should include laboratory experiences.

• 3 years of social studies including 1 year of U.S. History and 1 year of geography or its equivalent is highly recommended.

• 2 years of a single world language (including non-English native languages and American Sign Language).

• 1 year of specified electives chosen from the following: World culture (including world cultures, area studies, and cultural or ethnic studies); the arts (including visual arts and the performing arts of theatre, music, dance, and media arts); and computers.

Application Process

Students coming directly from high school may apply as outlined below. Applicants are encouraged to submit all admissions material as early as possible during their senior year. For the past several years, WSU has closed new student admissions for the next fall semester by early March.

1. Complete a WSU Admission Application. Application forms are available online at www.winona.edu or at the Office of Admissions (Maxwell Hall).

2. Return the completed application to the WSU Office of Admissions with a $20 non-refundable fee.

3. Request that your official high school transcript be forwarded to the Office of Admissions; the transcript should include high school rank.

4. Request that the ACT/SAT testing agency send your official score to the WSU Office of Admissions. The WSU ACT test code is 2162. The WSU SAT test code is 6680.
Students with fewer than 24 transferable credits must meet the admission criteria for first-year students, including high school preparation requirements, class rank, and admissions test scores.

Students receive credit for courses taken at accredited institutions in which the grades A, B, C, D, P, or the equivalents were attained.

Technical College Students: Students transferring from a technical college will receive a 16-credit general elective package of their technical college. Credit for technical college courses will be accepted on a course-by-course basis. To apply, students must send their official high school and technical college transcripts and request the ACT/SAT testing agency to send their official ACT/SAT scores to the WSU Office of Admissions.

Students also may be considered for admission by special appeal if they are transfer students who do not meet the above requirements because of special and unique circumstances. The student should write a letter of appeal to the Director of Admissions, outlining the unique circumstance. The letter should be supported by appropriate documentation and two letters of recommendation from high school faculty.

Transfer students should be eligible to return to their former colleges or universities. An official transcript, including a statement of withdrawal if the student formally withdrew, is required from each college attended. Students should request that the registrar at each college attended send an official transcript directly to the WSU Office of Admissions. Students are subject to suspension if they fail to comply with the transcript requirement and are inadvertently admitted to WSU.

Most credits earned at a community college or junior college may be accepted in transfer (remedial classes are not transferable); however, to earn a bachelor's degree, a student must earn 64 semester credits from a four-year institution. If students have a total of 64 semester credits earned at a community college, any credits exceeding those 64 semester credits are not counted toward the 128 credits required for a WSU baccalaureate degree. Transferred credits should have at least a “D” grade to transfer.

**Transfer Application Process**

1. Students should submit a transfer application and $20 application fee as early as they can before the deadline, which is 45 days prior to the semester in which the student expects to begin.

2. Students should request an official transcript from every institution they have attended. Students also might be required to provide a high school transcript or GED test scores. WSU does not make an admission decision until all the required documents are on file.

3. An evaluation of credits that will transfer will be enclosed with the acceptance letter. The degree audit tells students which courses transferred and which courses did not transfer.

4. Students who have questions about the evaluation degree audit should contact the Office of Admissions and ask to speak with a transfer specialist. Students can appeal if they are not satisfied with the evaluation.

**Transfer Student Rights and Appeal Process**

Students have the right to:

- A clear, understandable statement of an institution's transfer policy.
- A credit review and an explanation of why credits were or were not accepted.
- A review of their eligibility for financial aid or scholarships.
- A copy of the formal appeals process. Usually the appeals procedure is as follows:
  a. Students submit a completed appeals form. (Appeals forms are available at the Maxwell One Stop Center.) Students are encouraged to attach supplemental information such as a syllabus, a course description, or a reading list.
  b. A department or committee reviews the appeals form.
  c. Students receive notification, in writing, of the committee's decision.
  d. Students then have the option of appealing the decision to the Vice President for Academic Affairs (Somsen Hall, Room 211).
- Note: If a student is not satisfied with the college or university transfer appeal decision, the student may appeal to the Senior Vice Chancellor of Academic and Student Affairs at the Office of the MnSCU Chancellor.

**University Studies and the Minnesota Transfer Curriculum**

The Minnesota Transfer Curriculum is a cooperative transfer program in which all the public colleges and universities in Minnesota participate. If a new transfer student's former school certifies that he or she has completed all ten areas of emphasis of the Minnesota Transfer Curriculum, he or she is deemed to have satisfied the general education requirements of her or his new school. The ten areas of emphasis are written and oral communication; critical thinking; natural sciences; mathematics/symbolic systems; history and the social/behavioral sciences; humanities—the arts, literature and philosophy; human diversity; global perspective; ethical and civic responsibility; and people and the environment. Information about the Minnesota Transfer Curriculum is available online at www.mntransfer.org.

If the former school of the student transferring into Winona State University certifies that she or he has completed some, though not necessarily all, of the ten areas of emphasis of the Minnesota Transfer Curriculum, the student will be deemed to have satisfied WSU University Studies.

WSU’s physical development and wellness basic skill category has no corresponding Minnesota Transfer Curriculum area of emphasis. Students transferring to Winona State University will not be deemed to have completed this requirement unless the schools from which they transfer certify completion of the entire Minnesota Transfer Curriculum.

**INTERNATIONAL STUDENTS ADMISSION**

Office of International Services and Cultural Outreach
Kryzsko Commons, Room 128 (507-457-5303)
www.winona.edu/international
Email: intrec@winona.edu

Prospective international students who will hold F-1 visa status are welcome to apply for admission to Winona State University. Applicants should request the necessary application information from the Office of International Services and Cultural Outreach (see above). Prospective international students should follow these procedures:

1. Submit a completed WSU international admission application and $20 application fee. The fee should be payable to Winona State University in U.S. dollars. The Office of Admissions encourages students who are non-U.S. citizens to complete the application process three months before the first day of class for the semester in which studies are to begin.

2. Include official, certified academic credentials, verifying the completion of previous educational studies; this document(s) must include official mark sheets from all schools attended, including language schools. Please note that syllabi (course descriptions) should be provided for all non-U.S. college or university subjects. This is essential for the correct awarding of transfer credit. English translations must accompany any foreign language documents.

3. Request that an original or a certified true copy of your TOEFL score be forwarded to the WSU Office of International Services. The WSU code is 6680. The TOEFL score must meet the minimum of 190 on the computerized version, 520 on the paper version, or 68 on the Internet version.

4. Include either an original or notarized financial support statement from each sponsor or an original or notarized official bank statement for personal savings. Such statements must provide proof of financial responsibility for the duration of study at WSU. The amount of available funds must be indicated in U.S. dollars and dated within six months of the application date. The international application includes specific forms to be used for this purpose.

International students should be aware of the following information regarding admission to the University:

- Failure to supply official mark sheets/certified true copies from all schools previously attended is considered fraud and grounds for canceling admission or enrollment to the University.
- The financial support statement submitted during the admission process is scrutinized carefully because very little financial aid is available to students who are not U.S. citizens. Upon enrollment at the University, all financial obligations, including tuition, fees, room and board, laptop program, and health insurance must be paid by the due date.
- In most cases, immigration regulations prohibit students from applying for or accepting employment outside the campus community.
- WSU cannot assume responsibility for emergency situations that may arise while international students are attending the University.
- WSU requires international students to have health insurance; in most instances, this insurance must be purchased through the University.
- The University also requires all F-1 visa holders to complete an on-campus English placement exam unless the student is transferring to WSU with English composition credits accepted by the University. The English test, administered during orientation week, determines the appropriate English placement.
- Cross-cultural scholarships are available to all students accepted for admission. Based on the TOEFL score, Presidential Honor Scholarships are available to students who come to the University as freshmen with no transfer credits. To request additional information, contact International Services at intrec@winona.edu.
International students must report to the Office of International Services upon arrival to campus. International students are also required to be enrolled for a minimum of one academic year prior to being given permission for transfer to another institution.

**SPECIAL ADMISSIONS CATEGORIES**

**Adult Entry Students**
Outreach and Continuing Education Department (OCED)
Somsen Hall, Room 109 (507-457-5080)

The Adult Entry Program serves the educational needs of adult students within the University’s service area, on and off campus. The program is for adults who want to pursue an Associate in Arts or a baccalaureate degree. This innovative program features flexible admission requirements. The application process involves an assessment and review of prior learning, which the applicant has acquired through informal education or life/work experience. (A processing fee will apply.) WSU validates credits earned; the credits may apply toward a student’s degree program. For more information, contact the OCED office.

**Non-Matriculated Undergraduate Students**
Outreach and Continuing Education Department (OCED)
Somsen Hall, Room 109 (507-457-5080)

The Non-Matriculated Undergraduate Student Program allows adults who are not seeking a degree to take undergraduate classes on campus without going through the formal admission procedure. To participate in the program, the applicant must be a high school graduate (and be out of high school for at least one year) and/or have five years work experience. A maximum of 6 credits can be taken per semester, and a maximum of 12 credits can be transferred to a degree program.

The program opens the University’s doors to persons in the community desiring courses for general interest, professional enhancement, or personal enrichment. Contact the OCED office for more information.

**Post-Secondary Enrollment Options Program**

Students who have completed the 10th grade may be considered as applicants if they are currently enrolled in high school and have demonstrated an unusually high ability and/or achievement and are recommended by a high school counselor or principal. To be eligible, high school juniors must be in the top 15 percent of their class or have an ACT of 26 or higher; seniors must be in the top 25 percent of their class or have an ACT of 25 or higher.

**Previous Undergraduate Degree Students**

Students are classified as Previous Undergraduate Degree students if they have a baccalaureate degree and are taking additional undergraduate courses to satisfy a second major, minor, or certificate. Applicants must submit the following to the Office of Admissions:

- A Previous Bachelor’s Degree Application
- A $20 non-refundable application fee (unless they have attended WSU and paid the fee previously)
- Transcripts of previous college work and proof of baccalaureate degree

**Returning Students**

WSU students who have not attended the University for one or more semesters (summer excluded) are classified as returning students. Returning students must complete the Intent to Return form, which is available in the Registrar’s Office (Maxwell Hall). The Registrar’s Office then evaluates the student’s record for possible re-admission.

Students who intend to take further coursework at WSU are considered to be returning transfer students if they have attended another college or university (summer excluded) since they last attended WSU. Official transcripts are required for all college/university attendance. Returning transfer students must complete the WSU Application for Transfer and Returning Transfer Admission form, which is available in the Office of Admissions. The Office of Admissions evaluates the transcripts for possible re-admission.

Returning students who have been academically suspended should refer to page 26 for guidelines concerning re-admission under the University’s suspension policy. Under some circumstances, a returning student may petition to have a portion of his or her prior WSU transcript set aside and the GPA recalculated. See page 26 concerning the academic pardon policy.

**Undergraduate Special Students**

Students are classified as Undergraduate Special students if they are taking undergraduate courses for enrichment, general interest, credit to transfer to another school, or if they have no intention of earning a degree at WSU. Applicants must provide the following:

1. File an Undergraduate Special Enrollment form
2. Submit a $20 non-refundable application fee (if they have not attended WSU and paid the fee previously)
3. Submit transcripts of previous college work or a Statement of Good Standing. This step is applicable for students who want to transfer credits to their “home” university or college.

Admissions decisions are based on the same standards established for students coming directly from high school and for transfer students.

**PLACEMENT TESTING**

Incoming students with no college credit in English and/or mathematics will be placed in their initial English or mathematics class based on their ACT sub-scores. Students who are not satisfied with their ACT placement or who do not present ACT scores may take the Accuplacer® exams for placement. Additional information about the Accuplacer® exams can be found at www.winona.edu/advising/placement. Information about specific dates, times, and locations of exams is available at the Advising and Retention Center (Maxwell Hall, Third Floor; 507-457-5600) and at www.winona.edu/advising.

**VETERANS ASSISTANCE**

Veterans Affairs Office
Maxwell Hall (507-457-5109)

WSU is approved by the State Approving Agency for Veterans Training. Students should present their eligibility certificates to the Veterans Affairs Office when they enroll.

**Policies and Procedures**

1. A student’s application for veterans’ benefits can be submitted through the county Veterans Service Office or through WSU. Along with the application, students must submit a certified copy of their DD-214 form or a Notice of Basic Eligibility. Students who have been on active duty for more than one year.

2. Students should submit both copies of their Certificate of Eligibility for WSU when they apply for admission.

3. Enrollment is certified only after students present their DD-214 forms to the Veterans Affairs Office (after they have been admitted to the University). Enrollment for full-time students is usually for the academic year. Summer sessions and workshops are separate enrollment periods. The date of students’ enrollment is based on the school calendar, workshop dates, or contract periods. **Note:** A mixture of graduate and undergraduate credits is allowed only under special arrangements.

4. Students must report each change in academic load to the Veterans Affairs Office.

5. Payments of benefits: Allowances are paid on a monthly basis, conditional on students’ satisfactory progress in an approved course and their conduct. Payments are released upon certification furnished by the school. Students must notify the Registrar’s Office and the Veterans Affairs Office when they complete a course, drop a course, or have an interruption in their course of training.

6. Veterans with Dependents: The Veterans Administration (VA) requires students to submit certified copies of marriage certificates, birth certificates, and/or adoption papers for their dependents before they can receive payments based on their marriage and dependents. They are paid a single rate until these documents are on file with the VA. The WSU Veterans Affairs Office and the county Veterans Services Office can help expedite this procedure.

7. Re-enrollment: Students can re-enroll without a new Certificate of Eligibility. They must notify the WSU Veterans Affairs Office.

8. Academic Load: Full-time training requires 12 semester hours (S.H.) of undergraduate credit or 9 S.H. of graduate credit. Three-fourths time training requires 9 S.H. of undergraduate credit or 7-8 S.H. of graduate credit. Half-time training requires 6-8 S.H. undergraduate credit or 6 S.H. of graduate credit.

9. Tutorial assistance: This program provides tutors to help students overcome a deficiency in any subject required for the satisfactory pursuit of an educational objective. It is available to Vietnam-era veterans.

10. Contact the WSU Veterans Affairs Office for detailed information.

11. Waiver of physical education activity requirements: This requirement is waived if students have been on active duty for more than one year.
The College-Level Examination Program® (CLEP®) is a College Board program that allows students to earn college credit by demonstrating their mastery of college-level material in introductory subjects. CLEP provides students of any age with the opportunity to demonstrate college-level achievement through a program of exams in undergraduate college courses. CLEP exams do not relate to a specifically designed college-level course taught in high school. Rather, CLEP exams test mastery of college-level materials acquired in a variety of ways including general academic instruction, significant independent study, or extracurricular work.

CLEP exams cover material taught in courses that most students take as requirements in the first two years of college. A college usually grants the same amount of credit to students earning satisfactory scores (50 or higher) on the CLEP examination as it grants to students successfully completing the designated course.

**CLEP Examination**

- Accounting
- American Government
- American Literature
- Analyzing and Interpreting Literature
- Biology
- Calculus
- Chemistry
- College Algebra
- College Mathematics
- English Literature
- French Language
- Freshman College Composition
- German Language
- History of the United States I
- History of the United States II
- Human Growth and Development
- Humanities
- Information, Systems & Computer Applications
- Introduction to Business Law
- Intro. to Educational Psychology
- Introductory Sociology
- Natural Sciences
- Precalculus
- Principles of Macroeconomics
- Principles of Microeconomics
- Principles of Management
- Principles of Marketing
- Social Science and History
- Spanish Language
- Western Civilization I
- Western Civilization II
- Western Civilization I AND
- Western Civilization II

**WSU Credit for**

- General elective
- Political Science 120, Intro. to American Politics
- English 120, Introduction to Literature
- Math 115, College Algebra
- Math 100, Survey of Mathematics
- English 120, Introduction to Literature
- History 150, U.S. History to 1865
- History 151, U.S. History Since 1865
- Psychology 250, Developmental Psychology
- Electives, Humanities in University Studies
- General Elective
- Elective, Social Science in University Studies
- Sociology 150, Introduction to Sociology
- Psychology 210, Intro. to Psychological Science
- Elective, Natural Science in University Studies
- Math 120, Precalculus
- Economics 202, Principles of Macroeconomics
- Economics 201, Principles of Microeconomics
- General Elective
- Marketing 300, Principles of Marketing
- Elective, Social Science in University Studies
- History 120, Western Civilization to 1500
- History 122, Western Civilization 1815 to Present
- History 121, Western Civilization 1500–1815 AND
- History 122, Western Civilization 1815 to Present

**ADVANCED PLACEMENT**

Office of Admissions
Maxwell Hall (507-457-5100)
Email: admissions@winona.edu

All departments offer advanced placement credit to qualified students who achieve satisfactory scores of “3” or above on Advanced Placement Tests. For specific details, contact the Office of Admissions.
TUITION

For the fall and spring semesters, undergraduate tuition for full-time students (12-18 credits) on the Winona campus and the Outreach and Continuing Education department is billed at a flat rate. Tuition for full-time students who are Wisconsin residents is also billed at a flat rate. Tuition for classes on the Rochester campus is billed on a per-credit basis (except for Wisconsin residents). All summer session courses and graduate courses are charged on a per-credit basis. To view current tuition and fees, go to www.winona.edu/billing.

ESTIMATED FEES

Note: All fees are subject to change.

Application Fee: A non-refundable fee of $20 is required with any application for admission. Students who have previously been admitted to WSU and paid the application fee are not subject to this fee when they return to WSU.

Athletics Fee: The athletics fee is assessed to all students attending classes through the Winona and Rochester campuses. A committee consisting of members of the student senate and university administration determines the rates and the distribution of funds.

Course Fees: Course fees are assessed to all students attending courses that have additional course fees indicated in the class schedule. Rates are determined by the department chairperson and approved by the dean and the Vice President for Academic Affairs. Departments use course fees to pay for costs not normally incurred in everyday instruction (e.g., greens fees for a golfing course or a transportation fee for courses with a field trip component).

Health Service Fee: The health service fee is assessed to all students attending classes through the Winona campuses. A committee consisting of members of the student senate and university administration determines the rates and the distribution of funds.

Incidental Fees: Several small fees arise from non-course related matters such as health service, credit by examination fees, ID card replacement fees, parking permits, and library fines.

Insurance: Health insurance is available to all full-time students. Further details are available in the Counseling Center (Wabasha Hall).

Laptop Program Fee: All full-time students attending the Winona campuses, including transfer students, are required to participate in the laptop program regardless of the number of completed credits. (Students are considered to be full-time if they are enrolled in 12 semester hours or more.) Students are required to continue in the program until they graduate or leave WSU. Part-time students are not required to participate in the laptop program; however, they can pay the laptop fee and receive a laptop computer. Please consult with the Office of Admissions or the Office of Student Accounts for current information. Complete information on the laptop program is available at www.winona.edu/tsc/programlaptop.htm.

Late Payment Fee: Payment in full for all tuition, fees, and residence hall charges must be paid by the payment due dates published in the current class schedule and on the WSU website at www.winona.edu/billing. Any payment accepted after the payment due dates will be assessed a late fee. Students are expected to pay all accounts to the University when they are due. The University is authorized to withhold the issuance of diplomas and official transcripts of credits and to deny students further registration until all money due the University has been paid.

MSUSA Fee: The MSUSA fee is assessed to all students attending classes for college credit. The rates are determined by the Minnesota State University Student Association (MSUSA) and the state board office. Funds are used by the Minnesota State University Student Association.

Residential College Fee: The Residential College fee is assessed to all students within the Residential College. The rates are determined by the university administration; funds are used to provide additional programs for those in residence at the Residential College.

Student Life Fee: The student life fee is assessed to all students attending classes through the Winona and Rochester campuses. A committee consisting of members of the student senate and university administration determines the rates and the distribution of funds. Areas receiving funds include the student senate, university clubs, and the student newspaper, the Winonan.

Technology Fee: The technology fee is assessed to all students attending classes for credit. The rate is determined by the university administration; funds are used to support the student computer labs and academic computer services.

Union Facility Fee: The union facility fee is assessed to all students attending classes through the Winona campuses. The rate is determined by the university administration and the state board office. Funds are used to finance the construction, maintenance, and daily operation of the student union building.

REFUND POLICY

If a student’s course schedule is reduced for the convenience of the University, the tuition shall be adjusted without penalty. Students who drop classes must inform the Registrar’s Office using the official drop procedures (see page 27).

A student who withdraws from the University should obtain an Application for Refund form from the Registrar’s Office (Maxwell Hall). See page 27 for other considerations and implications of withdrawing from the University. Students who withdraw from the University or who drop one or more credits will receive a tuition refund according to the refund schedule that follows; refunds on activity fees will be calculated on the same basis as tuition.

Refunds are not given for textbooks and materials. Used books may be sold at the University Bookstore during the last week of each term.

WSU TUITION REFUND SCHEDULES

TERMS AT LEAST 10 WEEKS IN LENGTH:

<table>
<thead>
<tr>
<th>Withdrawal Day</th>
<th>Withdrawing Credit Drops</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to and including 5th class day of term or 1 day after 1st class session, whichever is later</td>
<td>100% 100%</td>
</tr>
<tr>
<td>7th through 10th class day of term</td>
<td>75% None</td>
</tr>
<tr>
<td>11th through 15th class day of term</td>
<td>50% None</td>
</tr>
<tr>
<td>16th through 20th class day of term</td>
<td>25% None</td>
</tr>
<tr>
<td>After 20th class day of term</td>
<td>None None</td>
</tr>
</tbody>
</table>

TERMS OF 3 TO 10 WEEKS IN LENGTH:

<table>
<thead>
<tr>
<th>Withdrawal Day</th>
<th>Withdrawing Credit Drops</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to and including 3rd class day of term or 1 day after 1st class session, whichever is later</td>
<td>100% 100%</td>
</tr>
<tr>
<td>4th and 5th class day of term</td>
<td>100% None</td>
</tr>
<tr>
<td>6th through 10th class day of term</td>
<td>50% None</td>
</tr>
<tr>
<td>After 10th class day of term</td>
<td>None None</td>
</tr>
</tbody>
</table>

TERMS OF FEWER THAN 3 WEEKS IN LENGTH:

<table>
<thead>
<tr>
<th>Withdrawal Day</th>
<th>Withdrawing Credit Drops</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to and including 1 day after 1st class session</td>
<td>100% 100%</td>
</tr>
<tr>
<td>1 day after 1st class session</td>
<td>None None</td>
</tr>
<tr>
<td>Enrollment for a Single 1-, 2-, or 3-Day Session or Less</td>
<td>Prior to beginning of session 100% None</td>
</tr>
</tbody>
</table>

ESTIMATED TEXTBOOKS

Textbooks costs range between $300 and $450 per term. Books can be purchased at the WSU Bookstore or other locations.

ESTIMATED ROOM AND BOARD

Payments for residence hall services and meal services are made each semester. Current information about the cost of room and board can be found at www.winona.edu/billing. For general information, see “Housing and Dining” on page 14.

RESIDENT STATUS

As a state-assisted institution, WSU’s primary function is making higher education available to residents of Minnesota. A higher tuition rate, therefore, is charged to residents of other states or nations. Students can get information about regulations and criteria that determine their residence...
status from the Office of Admissions (Maxwell Hall).

If a student is initially classified as a non-resident but believes that he/she has achieved residency, the student can request a change of status by filing a State of Residence form with the Office of Admissions.

Wisconsin, North Dakota, and South Dakota Tuition Reciprocity

Undergraduate or graduate students who live in Wisconsin, North Dakota, or South Dakota can submit the Student Application for Resident Fee Status form, which provides them with a tuition rate similar to what their home state charges. All high schools in Wisconsin, North Dakota, and South Dakota have the necessary form; the form is also available in the WSU Office of Admissions. Approval is granted for one year and is effective as long as the student is enrolled each semester (summer sessions are excluded). Students must re-apply for reciprocity tuition if they leave WSU for more than one academic year.

Midwest Student Exchange Program: Kansas, Michigan, Missouri, and Nebraska

For students who are residents of Kansas, Michigan, Missouri, or Nebraska, the tuition rate is 150% of the resident rate. The rate represents a typical savings of over $1,600 per year for undergraduate students.

### UNDERGRADUATE STUDENTS: ESTIMATED TOTAL MINIMUM EXPENSES

All amounts shown are estimates and are subject to change at any time. Actual rates are published on the WSU website at: www.winona.edu/billing/feeinformation.htm.

<table>
<thead>
<tr>
<th></th>
<th>2008-2009 Resident Per Semester</th>
<th>2008-2009 Non-Resident Per Semester</th>
<th>2009-2010 Resident Per Semester</th>
<th>2009-2010 Non-Resident Per Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition (16 semester hours)</td>
<td>$2,950.00</td>
<td>$5,300.00</td>
<td>$3,100.00</td>
<td>$5,550.00</td>
</tr>
<tr>
<td>Laptop Program</td>
<td>$500.00</td>
<td>$500.00</td>
<td>$500.00</td>
<td>$500.00</td>
</tr>
<tr>
<td>Fees</td>
<td>$380.00</td>
<td>$380.00</td>
<td>$400.00</td>
<td>$400.00</td>
</tr>
<tr>
<td>Residence Halls—Board &amp; Room</td>
<td>$3,100.00</td>
<td>$3,100.00</td>
<td>$3,210.00</td>
<td>$3,210.00</td>
</tr>
<tr>
<td>Estimated Total</td>
<td>$6,930.00</td>
<td>$9,280.00</td>
<td>$7,210.00</td>
<td>$9,660.00</td>
</tr>
</tbody>
</table>

### FINANCIAL AID

The Student Financial Aid Office can provide students advice and counsel about their long- and short-term plans for financing their education. Students who are entering WSU for the first time or who are transferring to WSU may contact the Director of Financial Aid for information about loans, scholarships, grants, and part-time employment. (See page 9 for general information about tuition, fees, and other financial information. To view current tuition and fees, go to www.winona.edu/billing.)

In general, financial aid administered by the University is awarded after applicants meet eligibility criteria and establish need. A student must meet requirements for initiation of financial aid for the first time and maintain satisfactory academic progress to be considered for financial aid. Awards are usually made for one academic year and are disbursed at the beginning of each semester.

### STUDENTS’ RIGHTS AND RESPONSIBILITIES

Students have the right to know:
- The cost of attendance.
- The refund policy for students who withdraw.
- What financial assistance is available from federal, state, and institutional sources.
- Procedures and deadlines for submitting applications for financial aid.
- How financial aid recipients are selected.
- How financial aid eligibility is determined, including all resources the Financial Aid Office considers available to the student.
- How and when funds will be disbursed.
- An explanation of each type of award received.
- For any student loan received: the interest rate, total amount to be repaid, when repayment begins, the length of the repayment period, and the cancellation or deferment provision of the loan.
- For any work study job: a description of the job, the hours to be worked, the rate of pay, and how and when they will be paid.

Students are responsible for:
- Reading directions thoroughly, completing all application forms accurately, and complying with any deadlines.
- Providing any supplemental information or documentation required by the Financial Aid Office or other agency, if applicable.
- Reading, understanding, and keeping copies of any forms required to sign.
- Repaying any student loans they receive.
- Attending entrance and exit interviews as required if they receive student loans.
- Notifying the Financial Aid Office of any changes in enrollment or financial status (including any scholarships or grants received from outside sources). Students who have loans must report changes of address and enrollment status to the lender.
- Satisfactorily performing the work agreed upon in a work study job.
- Knowing and complying with all requirements for continuation of financial aid, including satisfactory academic progress requirements.

### APPLICATION PROCEDURE

To initiate the process, students should complete a Free Application for Federal Student Aid (FAFSA) on the web at www.fafsa.ed.gov. Paper FAFSA forms are available upon request from the U.S. Department of Education at the above website. The WSU FAFSA code is 002394.

Awards to new students are made as soon as possible after the student is admitted to the University; awards to continuing students are made at the end of each academic year (in May). Certain programs have limited funding; others are entitlement programs and have funds available throughout the year.

### WSU-Rochester

WSU students attending WSU-Rochester should submit the FAFSA on the web (www.fafsa.ed.gov), or they should complete a paper form, listing Winona State University (FAFSA code 002394) as the receiving school. A financial aid advisor is available weekly to meet with students on the Rochester campus.
SATISFACTORY PROGRESS FOR FINANCIAL AID RECIPIENTS
Federal and state regulations require that all financial aid recipients maintain satisfactory progress. The intent of this requirement is to encourage all aid recipients to advance steadily toward the completion of their degree. The minimum standards required to receive financial aid apply to all academic work at Winona State University, whether financial aid was received at the time or not. Satisfactory progress is evaluated following each semester, including the summer term.

MINIMUM STANDARDS OF SATISFACTORY ACADEMIC PROGRESS FOR FINANCIAL AID RECIPIENTS
Note: This standard became effective fall semester 2007.

I. QUALITATIVE MEASURE
Students are required to maintain a minimum financial aid Satisfactory Academic Progress Grade Point Average (SAP GPA). WSU and consortium agreement credits are used to compute the SAP GPA. Please refer to Section VIII, which follows for a description of consortium agreement credits.

A student with the following number of WSU attempted credits at the end of a semester must have at least the minimum listed SAP GPA:

- 1 - 15 WSU attempted credits: 1.75 minimum SAP GPA
- 16 or more WSU attempted credits: 2.00 minimum SAP GPA
- 1+ graduate credit: 3.00 minimum SAP GPA

II. QUANTITATIVE MEASURE
A. Required Completion Percentage
A student must have at least 67% minimum listed Required Completion Percentage. To measure a student’s completion percentage:

1. Combine WSU earned credits and consortium credits to obtain cumulative earned credits.
2. Combine WSU attempted credits and consortium attempted credits to obtain cumulative attempted credits.
3. Divide the cumulative earned credits by the cumulative attempted credits to obtain the completion percentage.

B. Maximum Time Frame
Students may not exceed the maximum number of attempted credits listed below and continue to receive financial aid:

- Undergraduate Student: May not exceed 192 attempted credits.
- Previous Undergraduate Degree (second degree) Student: May not exceed 64 attempted credits.
- Graduate Student: May not exceed 45 attempted credits. Contact the Financial Aid Office for programs with degree requirements exceeding 30 credits.

II. EVALUATION PERIOD
Financial aid Satisfactory Academic Progress is evaluated at the end of each semester, including the summer term.

III. FAILURE TO MEET STANDARDS
At the end of each semester, including summer term, all students are reviewed for financial aid Satisfactory Academic Progress (SAP). Financial aid SAP suspension holds are placed on academic records for all students not meeting the standards.

Note: Students with special circumstances, which have caused the record to read as it does, may appeal the suspension. See the “Appeals” section for details.

V. NOTIFICATION
- Fall Semester Review: At the end of fall semester, a notice of suspension is sent to students who have filed the FAFSA for the current academic year and have a financial aid SAP hold.
- Spring Semester Review: At the end of spring semester, a notice of suspension is sent to students who have filed the FAFSA for either the current or next academic year and have a financial aid SAP hold.
- Summer Term Review: At the end of summer term, a notice of suspension is sent to students who have filed the FAFSA for the next academic year and have a financial aid SAP hold.

If the FAFSA has not yet been received for a student with a financial aid SAP hold, no notice of suspension is sent. When the FAFSA is received for a student with a financial aid SAP hold, the suspension notice will be sent.

In all cases, the suspension is effective immediately. No further processing of the student’s aid application takes place. Any costs already incurred are the responsibility of the student, and arrangements must be made with Student Accounts.

VI. APPEALS
Students who have experienced a special circumstance may submit written reviews to the Financial Aid Satisfactory Progress Review Committee to have their situation reviewed for possible reinstatement of aid. To submit a review, the student must submit the following documentation to the Financial Aid Office:

1. Satisfactory Progress Review Form (received with the notice of suspension).
2. Letter from the student explaining why he or she has fallen below standards and why aid should be reinstated.
3. Third-party letter documenting the student’s special circumstances.

If the appeal is approved, the student retains financial aid eligibility under an appeal status for one semester. Minimum academic standards for the semester are specified and communicated as part of the appeal resolution. When the cumulative standards are met, the student returns to a status of good standing at the end of the appeal semester.

If the cumulative standards are not met, the qualitative and quantitative performances for the appeal semester are reviewed. If the minimum standards are met as specified in the appeal for the semester, the appeal status is continued for another semester. If the minimum standards specified in the appeal are not met, the appeal status is removed and financial aid eligibility is suspended.

VII. REINSTATEMENT
Students may request reinstatement of aid for future semesters/terms once deficiencies have been made up and the record once again meets the minimum standards of financial aid Satisfactory Academic Progress. In addition, students may appeal after an absence if there is a valid reason to appeal. Contact the Financial Aid Office for the procedure to follow. Aid cannot be reinstated for a semester in which the student is academically ineligible.

VIII. ADDITIONAL ELEMENTS
- Treatment of Grades: WSU courses for which a student receives grades of A, B, C, D, F, W (withdrawal), P (pass), NC (no-credit), I (incomplete), IP (in-progress), and Z (no grade reported) are considered to be credits attempted for purposes of monitoring the Financial Aid Satisfactory Academic Progress standard. WSU courses for which a student receives grades of A, B, C, D, and P are counted as satisfactorily completed for the purposes of monitoring the Financial Aid Satisfactory Academic Progress standard.
- Academic Pardon: For monitoring the financial aid Satisfactory Academic Progress standard, credits for which students have been granted academic pardon are included in the calculation of the cumulative GPA, completion percentage, and maximum time frame. See page 26 for an explanation of the University’s academic pardon policy.
- Audited Courses: Audited courses do not count as credits attempted or credits earned and are not funded.
- Consortium Credits: Credits for which financial aid is received under a consortium agreement are recorded in the student data system to be included in cumulative GPA, completion percentage, and maximum time-frame calculations as transfer credits.
- Remedial Credits: For monitoring the financial aid Satisfactory Academic Progress standard, classes in this category are considered attempted. Up to 30 remedial credits are excluded from the Maximum Time Frame calculation.
- Repeated Courses: When a student repeats a course, only the last grade received and credits earned are counted in the GPA and as earned credits for this standard. However, the credits are considered to be attempted each time the course is taken. For financial aid Satisfactory Academic Progress, there is not a limit on the number of times a single course may be repeated. See page 25 for academic policies regarding repeated courses.
- Transfer Credits: Transfer credits accepted by WSU are not counted as credits attempted for calculation of cumulative completion percentage; grades associated with these credits are not used in calculating cumulative GPA. Transfer credits accepted by WSU apply toward the maximum time frame calculation.
• Withdrawal: If a student withdraws from the University before financial aid disbursement, the student does not receive any aid since no progress has been made toward a degree. The student must pay expenses from his or her own funds. Standard University refund policies and procedures are followed when a student withdraws from the University for any reason during the term after student aid has been disbursed. Withdrawal credits are considered credits attempted for purposes of monitoring the financial aid Satisfactory Academic Progress standard.

GRANTS
Federal Pell Grant: A federal grant program available to undergraduate students on the basis of financial need. The Pell Grant processor notifies students of their eligibility by sending them the Student Aid Report (SAR).

Minnesota State Grant Program: Available to qualified Minnesota residents on the basis of financial need. Students must apply within 30 days of the beginning of a term in order to be considered for that term. Students can get information about eligibility criteria and application procedures from any high school counselor or from the Financial Aid Office.

Federal Supplemental Educational Opportunity Grant: A federal grant available to undergraduate students who are eligible for a Pell Grant and who demonstrate exceptional need.

Post-Secondary Child Care Program: The state of Minnesota provides funding for child care to students who meet certain income guidelines, who are Minnesota residents, and who are not receiving MFIP (Minnesota Family Investment Program) assistance. Contact the Financial Aid Office for more information.

Bureau of Indian Affairs Grant: Grants are available to students with one-quarter or more Indian blood. Students who qualify can get more information and application forms by contacting the agency or area office serving their tribal group.

Rehabilitation Services: Students who have a disability may qualify for rehabilitation benefits that help defray college costs. Students who qualify should contact their high school counselor or local Division of Rehabilitation Services for detailed information.

LOANS
The loans listed below require repayment of the principal after a student leaves the University. In contrast to most commercial loans, some of the loans below are interest-free while the student is enrolled; others have interest accrual.

Subsidized Federal Stafford Loan: This need-based loan provides up to $3,500 for first-year students, $4,500 for sophomores, $5,500 for juniors and seniors, and $8,500 for graduate and professional students. The federal government pays the interest while the student is enrolled on at least a half-time basis and during a six-month grace period. The interest rate is fixed at 6.8%.

Unsubsidized Federal Stafford Loan: The terms and conditions are the same as those for Federal Stafford Loan, except that the borrower is responsible for interest that accrues while attending school. This loan program is available for students who do not qualify for a fully subsidized Stafford loan. Independent students may be eligible for higher loan limits.

Federal Perkins Loan: A need-based loan at 5% interest. Repayment and interest do not begin until after the student leaves school, and the loan may be partially canceled if the graduate obtains employment in certain areas according to the terms in the promissory note.

Student Educational Loan Fund (SELF): The Minnesota Higher Education Services Office provides loans for undergraduates and graduate students. Currently, undergraduate students can borrow up to $7,500 per grade level, and graduate students can borrow up to $9,000 per grade level. Students are eligible for SELF loans regardless of family income; however, the student must have a creditworthy co-signer. The interest rate is variable with a cap on increases and decreases at 2% for any 12-month period.

Federal PLUS Program: A loan program allowing parents of dependent students to borrow. Parents can borrow up to the cost of attendance less other financial aid the student receives. The interest rate is fixed at 8.5%.

SCHOLARSHIPS
See page14 for information about scholarships awarded by the Financial Aid Office.

EMPLOYMENT
Students can work up to 20 hours each week and earn a portion of their college expenses under the Federal Work Study Program, a program in which students can participate if they demonstrate financial need. The program pays minimum wage or more; students are paid twice a month. Most of the Federal Work Study Program jobs are located on campus; however, students can work for approved off-campus, nonprofit organizations or agencies. Eligibility for work study does not guarantee employment. Although WSU tries to maximize the number of work study opportunities each year, there are typically more eligible students than available jobs.

Students who are Minnesota residents can participate in the State Work Study Program. Students must demonstrate financial need to be eligible for the program. Students are paid minimum wage or more and, like the federal program, they can work on- or off-campus. Work Study Program earnings are taxable. However, the earnings are not included in the total income when filing the FAFSA for future years.

Students who do not qualify for work study may still be able to find employment on campus in student help positions. These positions are not based upon the results of the financial aid application and are not considered student financial aid. A listing of available work study and student help jobs is available at www.winona.edu/career.
SCHOLARSHIPS

Scholarship Administration Office – University Advancement
Somsen Hall, Room 210G (507-457-5198)
www.winona.edu/

In an effort to help students make progress toward their goals, Winona State University offers hundreds of scholarships. Students in almost all academic disciplines benefit from scholarship funds that come from a variety of sources, both on and off campus. Some scholarships are open to all students. Many have eligibility criteria based on major field of study, academic standing, financial need, affiliation with a particular organization, or other criteria established by the individual scholarship fund donors. Early in the spring semester, many scholarship applications are posted on the WSU Foundation webpage. To access this information, go to www.winona.edu, click on the Sitemap, and scroll down to find the “Scholarships” link.

The following sections describe general categories of scholarships that are available through the University.

WSU ACADEMIC SCHOLARSHIPS

The Office of Admissions (Maxwell Hall) can provide students with information about first-year and transfer academic scholarships. Funds for these scholarships come from the University and the WSU Foundation.

Outstanding Academic Honors Awards: This $3,500 award recognizes outstanding academic achievement in high school and is available to any first-year student coming to WSU directly from high school. It is renewable the first eight consecutive semesters for a total of $14,000 if the student maintains a cumulative GPA of 3.50 while attending WSU continuously as a full-time student and completing at least 12 credits per semester. A student is eligible if he or she is in the top 5% of his or her graduating class and has an ACT composite of 32 or greater. Awards are based on the date the student is accepted for admission to the University. Students are encouraged to apply for admission early. Recipients are required to live on-campus during their first two years unless they live with a parent or guardian. First-priority awards are made in early November.

WSU Foundation Board Scholarships: The WSU Foundation annually awards scholarships of $4,000 to six students coming to WSU directly from high school who rank in the top 5% of their high school graduating class and have an ACT composite of 32 or greater. An on-campus interview is required. Candidates are determined from a review of essays submitted to the WSU Foundation Board. The scholarship is renewable the first eight consecutive semesters for a total of $16,000 if the student maintains a cumulative GPA of 3.50 while attending WSU continuously as a full-time student and completing at least 12 credits per semester. A student is eligible if he or she is in the top 5% of his or her graduating class and has an ACT composite of 32 or greater. Awards are based on the date the student is accepted for admission to the University. Students are encouraged to apply for admission early. Recipients are required to live on-campus during their first two years unless they live with a parent or guardian.

Note: Students who are selected as recipients of the WSU Foundation Board Scholarship are not eligible for the President’s Honor Scholarship awarded by the WSU Office of Admissions.

President’s Honor Scholarships: The President’s Honor Scholarships are awarded to first-year students coming to WSU directly from high school in the following categories:

- $2,500 Top 5% of graduating class and ACT 28 or SAT 1240
- $1,500 Top 10% of graduating class and ACT 27 or SAT 1210
- $1,000 Top 15% of graduating class and ACT 26 or SAT 1170

The scholarships are available for the first eight consecutive semesters if the student continuously attends WSU as a full-time student, maintains a 3.50 cumulative GPA, and completes at least 12 credits per semester. President’s Honor Scholarship recipients are required to live on-campus during their first two years unless they live with a parent or guardian. Early application for admission is encouraged.

Academic Awards: $300-$500 awards are made to students graduating from high schools in Minnesota and Wisconsin. Students are eligible if they are in the top 20% of their graduating class with a minimum ACT of 21 or if they have an ACT composite of 24 and are in the top half of class. The awards are based upon the date the student is accepted at WSU. Students are encouraged to apply to WSU early.

TRANSFER SCHOLARSHIPS

Transfer Honor Scholarships: Students can apply for this scholarship if they are transferring to WSU and have a minimum GPA of 3.35 on a 4.00 scale. Application forms are available in the WSU Office of Admissions.

Phil Sigma Kappa Scholarships: 1,000 renewable Presidential transfer scholarship. The scholarship is awarded to transfer students who have completed study at a community college with a 3.5 GPA or higher, membership in Phi Sigma Kappa, and an earned Associate of Arts degree.

RESIDENT TUITION SCHOLARSHIPS

The Resident Tuition Scholarship (RTS) awards resident tuition rates to new, non-resident, non-reciprocity first-year students. Based on the difference in the cost of resident and non-resident tuition, this scholarship is valued at $4,500 annually. The Resident Tuition Scholarship is renewable the first eight consecutive semesters if the student maintains a cumulative GPA of 3.00 while attending WSU continuously as a full-time student and completing at least 12 credits per semester.

An RTS is automatically awarded to new students who meet the criteria above and who rank in the top 15% of their graduating class or have an ACT of 25 or an SAT total of 1100. Students are encouraged to apply to WSU early.

TALENT SCHOLARSHIPS (FINE ARTS AND ATHLETICS)

Students may apply for fine arts scholarships if they are talented in art, music, speech, or theater by contacting the chairperson of the appropriate WSU department. Students are encouraged to apply to WSU early. Students who are interested in intercollegiate sports should contact the appropriate head coach to be considered for athletic scholarships.

SCHOLARSHIPS AWARDED BY WSU DEPARTMENTS

Most WSU academic departments select recipients of WSU Foundation scholarships in their major fields with awards of $100 to $2,000. Students in good academic standing and majoring in the specific departments may apply for these scholarships. The application process begins early in spring semester. Students should contact the designated departments for information about application procedures and deadlines.

For more information regarding WSU Foundation scholarships, including application dates and specific requirements, contact the Scholarship Administration Office, Somsen Hall, Room 210 (507-457-5198).

ALUMNI SOCIETY SCHOLARSHIPS

WSU Alumni Affairs Office
Somsen Hall, Room 206 (507-457-5027)

The WSU Alumni Society awards six $1,000 scholarships to new, not previously registered students who are relatives of alumni. The applicant must be a child, grandchild, a sibling, or a ward of a WSU graduate, and the applicant must be endorsed by a high school counselor or a community leader. Applications are available in the WSU Alumni Office. Applications must be submitted by March 1.

INCLUSION AND DIVERSITY SCHOLARSHIPS

Inclusion and Diversity Office
Kryzsko Commons, Room 121 (507-457-5595)

The WSU Inclusion and Diversity Office coordinates scholarships, incentive grants, internships, and summer opportunity employment programs for historically under-represented students.

Inclusion and Diversity Academic Honors Scholarship: This $2,000 award is available to incoming first-year students with a composite score of 24 or above on the ACT or a 3.00 high school GPA and ranking in the 50th percentile of their graduating class. The scholarship is renewable for three years if the student maintains a 3.00 GPA each semester. Applicants must submit one letter of recommendation from a high school teacher or counselor along with a typed autobiographical essay. Students who receive the Inclusion and Diversity Academic Scholarship are required to participate in the mentor program. (See note below for changes effective fall 2007.)

Inclusion and Diversity (Alliss) Scholarships/Grants: Scholarships/grants of $350-$1,100 are awarded to students admitted to WSU based on financial need and academic potential. Students must maintain a 2.75 GPA to remain eligible for the scholarship/grant as well as Federal Financial Aid. Applicants must complete a Free Application for Federal Student Aid (FAFSA) form. (See note below for changes effective fall 2007.)
Note: Effective fall 2007, scholarship requirements were modified to align with innovations at WSU as well as MnSCU’s definition of “underrepresented populations.” MnSCU defines underrepresented populations as “those who have been under-prepared for or traditionally under-represented or under-served in higher education, including students of color, first generation college students, students for whom English is a second language, and low income students.”

SCHOLARSHIPS AWARDED BY THE FINANCIAL AID OFFICE
The Financial Aid Office selects recipients for the scholarships listed below. Awards are based upon financial need and other criteria as determined by the scholarship donor. To apply for these scholarships, students must complete the FAFSA (Free Application for Federal Student Aid) form, which is available through the Financial Aid Office (page 10). Scholarship amounts vary.
- Charles and Ellora Alliss Foundation Scholarship
- Etta Hudson Howell Scholarship
- Arthur and Liola (Zeller) Mattson Scholarship
- Winona County Bicentennial Scholarship

OTHER SOURCES OF SCHOLARSHIPS
In addition to scholarships from WSU and the WSU Foundation, a number of organizations offer scholarships to their members, employees, and relatives. Each year, WSU students receive thousands of dollars in scholarships from businesses, government agencies, civic groups, professional organizations, fraternities and sororities, foundations, religious groups, education associations, and military/veterans organizations. Directories of these scholarship sources are available from a public library, high school guidance counselor, or financial aid office.

HOUSING AND DINING

Department of Housing and Residence Life
Kryszko Commons, Room 130 (507-457-5305)
www.winona.edu/housing
Email: reslife@winona.edu

HOUSING
The Department of Housing and Residence Life provides a comprehensive variety of residential opportunities to WSU students with an equal focus on the following areas: student learning, outstanding service, leadership development, and facilitation of a positive sense of community and connection to WSU. The University does not offer a residential experience at the WSU-Rochester campus. See page 35 for information about housing as it relates to the Rochester campus.

ON-CAMPUS HOUSING
WSU offers more than a place to sleep and study. WSU offers a total living and learning environment that supports our academic mission and promotes leadership and community development. Students enjoy a quality residential experience filled with activities and programs that extend learning beyond the classroom to include (1) recreational and social pastimes with friends from across the country and around the world and (2) abundant opportunities to expand their intellectual horizons and hone their leadership skills.

At WSU, we believe that living on campus should be a special and rewarding part of the student’s education. The Housing and Residence Life staff members devote their time to providing resources, services, and programs that ensure a stimulating and supportive atmosphere for every resident.

Throughout the school year, every residence hall sponsors high-quality programs that complement classroom learning and encourage leadership and citizenship. The programs—many of which are organized by hall residents—touch on different areas such as diversity, career development, intellectual and creative enrichment, social and recreational activities, community service, and other issues important to students.

A full-time hall director resides in each residence hall; the majority of our hall directors hold master’s degrees in fields related to College Student Development. Hall directors provide supervision and leadership, working with a team of upper-division resident assistants (RAs) to create a comfortable, secure, and supportive environment for all students.

Residence Hall Council and Resident Assistants
In each hall, a Residence Hall Council offers opportunities for students to develop a variety of leadership and management skills. Comprised of students elected to various posts by their fellow residents, the council is responsible for organizing the hall’s educational and social activities and for encouraging students to take ownership of their hall. Council members attend regional and national conferences devoted to student leadership and host leadership conferences on campus. First-year students are strongly encouraged to get involved with their hall council; new students may also find their leadership niche by running for one of the six Freshman Senator posts in the WSU Student Senate.

A well-trained and responsive team of RAs plays a key leadership role in the daily life of each hall. Selected through a rigorous application process, these upper-division students serve as peer advisors and counselors for residents, organize educational activities, and encourage participation in hall and campus activities.

Residence Halls
Nine residence halls allow WSU to house approximately 2,100 students. See the campus maps for names and locations of residence halls. For a description of each hall and the different options, students should request a copy of the Residence Life Viewbook or visit the Residence Life website.

While the specific housing options vary within each facility, students can expect to find the following in every WSU residence hall:
- A room fully furnished and wired for laptop computers, local telephone service, and hook-up for cable TV.
- A laser printer at the hall reception desk for students’ use.
- Areas conducive to group study.
- Fitness facilities—aerobic equipment and weights—are available in some halls. All halls have TV lounges with big screens and lots of comfortable furniture, kitchen facilities for preparing a snack or light meal, vending machines for those times when hunger strikes at odd hours, laundry rooms, and sports equipment and games to borrow.
- A secure environment. Campus security monitors the halls throughout the day and conducts “check-ins” for everyone after 11 p.m. Residence hall staff and campus security work diligently to make the halls safe.

University Apartments at East Lake
University Apartments at East Lake is located at the corner of Franklin and Sarnia Streets. The complex consists of 100 apartment units, housing a total of 360 students. Most of the apartments are 4-bedroom/2-bath units that accommodate 4 students; some are 2-bedroom/2-bath units that accommodate 4 students, and a few are 1-bedroom/1-bath units that accommodate 2 students. All the apartments are fully furnished (including washer and dryer); the housing fee includes all utilities except long distance telephone service.

Applying for Housing
Students must first apply for admission to Winona State University. WSU is an early application school, and on-campus space is allocated based on the date of the student’s application. Therefore, it is important for applicants to return the housing application as early as possible.
The application process is as easy as 1-2-3:
1. Apply for admission to WSU early in the senior year of high school. The housing packet will be sent to you following your letter of acceptance from WSU.
2. Promptly complete the housing application/contract. It is recommended that you complete the application as early as possible, but not later than March 1 to guarantee a space in the residence halls.
Note: Residence hall space is allocated by the date WSU receives your completed housing application/contract.
3. Submit a $250.00 payment (which includes a $50 application fee) on or before March 1 to confirm your space on campus.
Note: $200.00 of your advance payment is refundable if the Housing Office receives your written refund request on or before May 1. The $50.00 application fee is not refundable.

Payment for Housing and Dining Services
Payment for residence hall and meal services is made on a semester basis. See page 10 for an estimated total of the minimum expenses for undergraduate students. View current room and board rates at www.winona.edu/billing.

OFF-CAMPUS HOUSING REFERRAL SERVICE
The Office of Housing and Residence Life provides an Off-Campus Referral Service (Kryzsko Commons, Room 130), which consists of listings provided by the landlords of apartments and other rental options. Information is available at the office during business hours. The listing is available on the Student Answer Center website (www.winon.edu/sac). WSU makes no representation as to the kind, quality, or quantity of facilities listed by the landlords. The University also does not control any changes to the information; cost and availability are subject to change by the landlords. WSU assumes no liability arising from relationships between students and landlords as a result of these listings. All questions should be addressed to the landlords.

The University does not own nor does it operate housing facilities specifically for married students. To apply for subsidized housing, students should contact the Housing and Redevelopment Authority of Winona, 165 E. 4th St., Winona, MN 55987.

CAMPUS DINING
Campus dining at WSU is an exciting and nutritious experience. WSU has two dining halls on campus, the Jack Kane Dining Center, located in Kryzsko Commons, and the Lourdes Dining Hall, located on the West Campus. Built in 1994, the Jack Kane Dining Center follows a riverboat theme, providing an atmosphere that complements fine dining. The area hosts an upper-level mezzanine as well as a lower-level with a private dining area. The newly renovated Lourdes Dining Hall, located on the main floor of Lourdes Hall, provides additional convenience for the students living on the West Campus. (See page 35 for information about dining options for the Rochester campus.)

Students on the meal plan can use their meal cards in either dining location. In addition to the two dining halls, students have the option of eating in the Kryzsko Commons Food Court (known as the Smaug) or the Lourdes Hall Snack Shop.

Meal Plan advantages include:
• All you care to eat: Unlimited portions available on all items except premium entrées.
• Grab & Go Lunches and Dinners: Available for students with work or class schedules that conflict with meal times.
• Under-the-Weather Trays: If students are ill and need to have a meal brought to them, they can arrange this service through the Residence Life Staff.

WSU offers a choice of three meal plans: 14, 10, or 7 meals per week. In addition, each meal plan includes cash credit (Kryzsko Kash) to make purchases in the “Smaug” or at convenience stores on the main and west campuses. Changes to decrease the number of meals in your meal plan can only be made during the week of final examinations or during the first week of classes each semester. You may increase the number of meals in your meal plan at any time.

The Food Service Committee, comprised of students, provides input and suggestions to enhance WSU’s campus dining experience.

EMPLOYMENT OPPORTUNITIES
Campus dining also provides employment opportunities; it is one of the largest student employers on campus. Students who are interested in on-campus employment should contact the Campus Dining Office (Kryzsko Commons, Room 229).

REGISTRATION AND ACADEMIC RECORDS
Registrar’s Office
Maxwell Hall, Third Floor (507-457-5030; fax: 507-457-5578)
www.winona.edu/Registrar

The Registrar’s Office is responsible for maintaining and safeguarding records of student academic performance; monitoring compliance with academic requirements; facilitating the scheduling of classes; managing the process of enrolling in University courses and programs; providing official transcripts and other documents to verify student achievement; maintaining an accurate catalog of all academic offerings; facilitating the transfer of student records between WSU and other institutions; and verifying compliance with federal and state regulations and with the expectations of agencies with which WSU or its students have obligations.

REGISTRATION
WSU offers classes in two 15-week semesters and a 10-week summer term, which consists of two 5-week sessions. Continuing students register for fall and summer classes during April of the previous academic year, and for spring classes during November. New students typically register for classes during June of the summer before their first fall semester. All course registration is performed electronically on the WSU website. Prior to registering for on-campus (Winona) classes, new and returning students must satisfy admissions requirements. All Winona campus undergraduate students must also contact their advisor each term to receive their registration access code. See pages 5 and 7 for an explanation of the admissions policies and procedures for new and returning students. When new students’ applications have been approved and processed, WSU sends each student a Warrior ID number and a PIN number.

ADVISING
Each semester, WSU schedules an Advising Period (see the Academic Calendar at www.winon.edu/Registrar). During this period, students who are enrolling in on-campus (Winona) classes must meet with their advisors (see page 28). In addition to providing academic advising, the advisor gives the student an access code that the student must use, together with the Warrior ID number and the PIN number, to initiate the WSU Web Registration procedure for the fall and spring semesters. Summer term registration does not require an access code. Most students on the Rochester campus and those registering for extension classes do not need an access code.

Students may go to www.winona.edu/registration.html for up-to-date reports that assist in their academic planning. From this web address, students can access the Minnesota State Colleges and Universities (MnSCU) Student Portal where they may view and print their current academic transcript. Students can also get a copy of their Degree Audit Report from the Degree Auditing Reporting System (DARS). The DARS report is designed to help students select courses and build their academic
schedule by displaying their progress at any point in their career. It shows how courses taken at WSU or transferred from other schools apply to the student's degree and what courses are still needed to meet all requirements. Students use this information to work with their advisors to better plan their academic careers.

WEB REGISTRATION
The order of registration for continuing students is determined by the number of academic credits they have completed. Students with the greatest number of credits register first. The schedule of registration "windows" during which students may register is available on the MnSCU portal at www.winona.edu/registration. The Registrar strongly advises students to print a copy of their updated schedule any time they use the Web Registration system to add or delete courses and to maintain a personal folder of all records of academic progress.

Students should keep the paper copy of their schedule until grades are reported at the end of the semester. If there is any problem with a student's registration or bill, the student will be asked for the printed schedule.

EXTENSION CLASSES
Students can enroll in Extension classes without being formally admitted to the University or filing an Intent to Return form. To register in an extension class, the student may go to the WSU website and follow the Web Registration instructions. Web Registration requires the student to enter his/her Warrior ID number and PIN number. Students who have not received these numbers can contact the Outreach and Continuing Education Department (OCED) in Somsen Hall, Room 109 (507-457-5080) for assistance. Students who are unable to register on the website may register by submitting an Extension Class Registration form to the OCED office.

ATTENDANCE POLICY
Students are required to attend the first meeting of all classes in which they are registered. See page 24 for more details on the class attendance policy.

CHANGES IN CLASS SCHEDULE
Change the Grade Method for a Class
At the time of registration, students must indicate whether they are taking a course for letter grade, audit, or pass/no credit if the course permits these grading options. If students wish to modify their choice of grade type, they must request the change by the published drop/add deadline. Audited courses cannot be used to satisfy graduation, enrollment status, certification, or licensure requirements. To request a grade method change, students should go to the WSU website and follow the directions under Web Registration.

Add a Class
For the first five instructional days of the semester, students may add a class using the Web Registration process. After the fifth instructional day of the semester (or after the first class meeting for evening classes), students must obtain the permission of the instructor for each class to be added. To register for a full class or for a course that requires the instructor's permission, students must either submit a signed Class Permit form (also called a “blue card”) to the Registrar's Office or have their instructor submit an override online.

Arranged Classes
An "arranged class" is a course listed in the WSU catalog but not scheduled to be offered during a particular semester. Such a course may be made available at the discretion of the faculty member, department chairperson, and academic dean. To apply for an arranged class, students must be fully matriculated with an established WSU GPA of 2.00 or higher. Students should request an application from the Registrar's Office and obtain approvals from the academic dean and academic department. When the arranged class has been added to the University's course schedule, the student must then register for the class in the usual fashion.

Independent Study or Internships
To apply for an independent study course or an internship, a student must be fully matriculated with an established WSU GPA of 2.00 or higher. The student should consult the academic department for information about any additional GPA requirements for internships. A special application form, available from the Registrar's Office, must be submitted to the appropriate academic dean according to announced deadlines (see the Academic Calendar at www.winona.edu/registrar). Because an independent study or an internship is an academic course, the student must register for it after the special application form has been approved—either by using the Web Registration procedure or by submitting an application to the appropriate office (Registrar's Office, Maxwell Hall, Third Floor or the University Center Rochester). See page 24 for further information about independent study and internships.

ACADEMIC RECORDS
Student Privacy Policies
WSU complies with the Federal Family Educational Rights and Privacy Act (FERPA) and the Minnesota Government Data Practices Act. Based on these two acts, students are afforded certain rights with regard to their education records. Specifically, students have the right to:
1. Inspect and review their education records within 45 days of the date that the University receives the student's request for access.
2. Request correction of records the student believes to be inaccurate, misleading, or in violation of his/her privacy rights.
3. Withdraw consent to disclosure of "directory information" as defined in the following policy statement:

Pursuant to the Minnesota Government Data Practices Act, Minnesota Statute Section 13.32, Subdivision 3; and the Family Educational Rights and Privacy Act, 20 USC 1232g et seq, 1974, Winona State University gives notice that the following directory information will be released upon request:
- Name
- Classification (FR, SO, JR, SR, etc)
- Permanent Address and Telephone Number
- Enrollment Status (Full-Time or Part-Time)
- Local Address and Telephone Number (includes email address)
- Date of WSU Graduation
- Date and Place of Birth
- Major and Minor Fields of Study and Licensure Programs
- Participation in Officially Recognized Activities and Sports
- Weight and Height (of Athletic Team Members)
- Dates of Attendance
- Degrees and Awards Received
- Most Recent Previous Educational Institution Attended

The University may disclose any of these items without prior written consent, unless notified in writing to the contrary. Any student who objects to the release of all or any part of the directory information on file in his or her name must notify the Registrar's Office, in writing, that he or she does not wish to have such information released. This request will be honored and all, or any specified portion of the information, which the student requests not to be released, will be held confidential.

Name or Address Change
Official name changes are made at the Maxwell One-Stop Center and require supporting documentation such as a marriage license, court order, or divorce decree. Students should use the MnSCU Student Portal to request address changes as soon as possible. In addition, students who are candidates for graduation should make the same name or address changes on the Application for Graduation.

Final Grades
At the end of the semester, final grades are available to students on the WSU website. To view grades, students access the MnSCU Student Portal and click on "Check Term Grades."

Transcripts of Credit and Copies of Student Records
Upon the student's signed, written request, the Registrar's Office will issue either an unofficial transcript or an official transcript (i.e., embossed with the University seal and a copy of the Registrar's signature). In general, students and advisors use unofficial transcripts on campus. Official transcripts are sent to other educational institutions, businesses, and other organizations. Release of official transcripts may be withheld if there is an outstanding debt to the University.

Transcripts may be requested in person at the Registrar's Office, by United States Postal Service mail, or by fax. Official transcripts are processed within three to five business days. When a transcript is given directly to the student, it is stamped “Issued to Student”; students must show a current WSU ID to pick up transcripts.

WSU reserves the right to refuse students access to inspect the following kinds of records:
- Financial statements of the student's parents
- Letters and statements of recommendation for which the student has waived his or her right of access, or which have been maintained by WSU prior to January 1, 1975

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- Letters and statements of recommendation for which the student has waived his or her right of access, or which have been maintained by WSU prior to January 1, 1975

Transcripts of Credit and Copies of Student Records
Upon the student's signed, written request, the Registrar's Office will issue either an unofficial transcript or an official transcript (i.e., embossed with the University seal and a copy of the Registrar's signature). In general, students and advisors use unofficial transcripts on campus. Official transcripts are sent to other educational institutions, businesses, and other organizations. Release of official transcripts may be withheld if there is an outstanding debt to the University.

Transcripts may be requested in person at the Registrar's Office, by United States Postal Service mail, or by fax. Official transcripts are processed within three to five business days. When a transcript is given directly to the student, it is stamped “Issued to Student”; students must show a current WSU ID to pick up transcripts.

WSU reserves the right to refuse students access to inspect the following kinds of records:
- Financial statements of the student's parents
- Letters and statements of recommendation for which the student has waived his or her right of access, or which have been maintained by WSU prior to January 1, 1975

Transcripts of Credit and Copies of Student Records
Upon the student's signed, written request, the Registrar's Office will issue either an unofficial transcript or an official transcript (i.e., embossed with the University seal and a copy of the Registrar's signature). In general, students and advisors use unofficial transcripts on campus. Official transcripts are sent to other educational institutions, businesses, and other organizations. Release of official transcripts may be withheld if there is an outstanding debt to the University.

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WSU reserves the right to refuse students access to inspect the following kinds of records:
Credit Transfers from WSU
Universities and other colleges accept academic courses, undergraduate and graduate, completed at WSU when those courses are applicable to a curriculum the student chooses and when the courses meet prescribed scholastic standards. See pages 5 and 7 for further information about credit transfer as a new or returning WSU student.

Application for Graduation
The requirements for graduation with Associate in Arts and baccalaureate degrees are listed on page 23. Candidates for graduation should review the requirements specified for their major/minor, and submit an Application for Graduation to the Registrar's Office at least two semesters before they expect to graduate.

Applications are processed in the order in which they are received at the Maxwell One-Stop Center; students should allow four to six weeks minimum for application processing and notification. Three weeks before graduation, a list of candidates is posted online and on the Maxwell One-Stop Center bulletin board. Candidates should review the list to confirm that they have been approved for graduation. If a candidate's name does not appear on the list, he or she should contact the Maxwell One-Stop Center.

Graduation for any particular semester becomes final 30 working days after the end of the semester. Degrees are posted on student transcripts at the end of the fall semester, spring semester, and the second summer session.

Student Right to Know Act
Institutional Research
Maxwell Hall, Room 209 (507-457-5004)

In compliance with the federal Student Right to Know Act, WSU tracks the rates at which full-time students complete bachelor’s degrees from the University, within a specified period of time. This information is available on request from the Office of Institutional Research.

ACADEMIC POLICIES & UNIVERSITY REQUIREMENTS

Sally Johnstone, Vice President for Academic Affairs
Somsen Hall, Room 211 (507-457-5010)
www.winona.edu/academics

The Office of the Vice President for Academic Affairs oversees all academic matters for the University, which include maintaining the curriculum and making it available to students, assuring the quality of instruction, administering the academic policies and requirements of the University, managing enrollment, and maintaining a stimulating learning environment.

Policy Changes: Administrative and committee actions may change policies that affect students at any time. Students are responsible for complying with changes as they are reported either in the student newspaper (the Winonan) or in announcements posted in the Registrar's Office (Maxwell Hall) or on the University's website (www.winona.edu).

UNIVERSITY REQUIREMENTS

Students progress toward an associate (two-year) or a baccalaureate (four-year) degree by completing courses that satisfy University Studies requirements. Students in baccalaureate programs must also satisfy the requirements of an academic major and may take required courses in a minor or related field. Students also commonly take elective courses for personal interest or enrichment that do not satisfy requirements in any of these three areas, but that can be applied toward the total number of course credits required for graduation.

However, excessive accumulation of elective courses can delay graduation. Some academic choices lead unavoidably to that end. For example, a student who changes academic goals by transferring from another school or by changing majors may accumulate courses that can only be counted as electives. If a student changes from one curriculum to another within the University, the student must meet requirements of the newly chosen curriculum even though the total number of credits earned exceeds the total minimum for graduation.

Some courses may apply to both teacher licensure and a university requirement, or they may satisfy more than one university requirement simultaneously. Careful academic planning, with the help of an advisor (page 28), can take advantage of such overlaps to satisfy multiple goals within the time span required for an undergraduate degree.

Non-Degree Credit
A small number of courses cannot be used to satisfy university requirements or applied toward graduation. These include:

- Developmental courses (course numbers below the 100-level). Developmental courses such as English 099 and Math 050 meet a student's educational needs, but carry only non-degree credit that counts toward financial aid and athletic eligibility but does not count toward graduation requirements. The grade received in a developmental course is not used in computing the term or cumulative GPA.
- Audited courses (page 24).
- Vocational courses in excess of 16 credits (not available at WSU but sometimes taken at another school).
- Courses taken for continuing education credit (CEU) (page 29).
- Courses in which the student has received a failing grade. (Some departments require a grade of “B” or better in courses applied toward the major.)

<table>
<thead>
<tr>
<th>Required for A.A.</th>
<th>Required for B.A. or B.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>46 Credits</td>
<td>46 Credits</td>
</tr>
<tr>
<td>University Studies, Including:</td>
<td></td>
</tr>
<tr>
<td>Basic Skills — 12 credits</td>
<td></td>
</tr>
<tr>
<td>Arts and Sciences Core — 22 credits</td>
<td></td>
</tr>
<tr>
<td>Unity and Diversity — 12 credits</td>
<td></td>
</tr>
<tr>
<td>12 Credits</td>
<td>Flag Requirements — 12 credits</td>
</tr>
<tr>
<td>47 Credits Minimum</td>
<td>Major</td>
</tr>
<tr>
<td>Minor</td>
<td></td>
</tr>
<tr>
<td>18 Credits</td>
<td>Variable</td>
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<tr>
<td>Electives</td>
<td>TOTAL CREDITS</td>
</tr>
<tr>
<td>64 Credits</td>
<td>128 Credits</td>
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</tbody>
</table>

Developmental Courses
**UNIVERSITY STUDIES PROGRAM (USP)**

The University Studies Program (46 semester hours) provides a broad base of skills and knowledge to equip students for informed, responsible citizenship in a changing world. It thereby distinguishes a college degree from a technical or occupational training program certificate. The program provides opportunities for students to evaluate their cultural and social inheritance critically, to think scientifically in both the natural and social spheres, to think beyond the boundaries of their own culture, and to understand the expressive arts. It also enhances reasoning, analytic, and communication skills that students will need to perform well in a wide range of occupations and postgraduate programs. Finally, the program provides the opportunity for students to explore how an understanding of the connections among these diverse bodies of skill and knowledge enhances their ability to live well and ethically in the contemporary world.

Page 19 provides an overview of the University Studies subject areas and semester-hour requirements. Page 19 lists the courses approved for University Studies credit at the time this catalog was published.

All students, including transfer students, must complete the University Studies requirements in order to graduate from WSU:
- Transfer students who have satisfied specific goals of the Minnesota Transfer Curriculum, as identified in the Admissions section of this catalog, will be considered to have satisfied the equivalent components of the University Studies Program.
- Transfer students who have received an Associate in Arts (A.A.) degree from a community or technical college have automatically satisfied the Basic Skills, Arts and Sciences Core, and Unity and Diversity components of University Studies but must, nevertheless, complete the University Studies Program Flag requirements at WSU.
- Transfer students who have received an Associate of Science (A.S.) or Associate of Applied Science (A.A.S.) degree from a community or technical college must complete the WSU University Studies requirements; however, the unity and diversity components will be waived unless there are specific requirements in the student’s major.

**Credit Transfers from WSU**

The Minnesota Transfer Curriculum is a cooperative transfer program in which all public colleges and universities in Minnesota participate. If Winona State University certifies that a student transferring to another participating college or university has satisfied all ten areas of emphasis of the Minnesota Transfer Curriculum, then the other school will give the student credit for fully satisfying their general education requirements. The ten areas of emphasis are written and oral communication; critical thinking; general education; natural sciences; mathematics/symbolic systems; history and the social behavioral sciences; the humanities—arts, literature, and philosophy; human diversity; global perspective; ethical and civic responsibility; and people and the environment. Additional information about the Minnesota Transfer Curriculum is available at www.mntransfer.org.

Note: The list of approved University Studies courses is continually updated as additional or new courses are approved for various levels of the University Studies Program. The most up-to-date list of courses is available at www.winona.edu/registrar. Students are expected to check all course descriptions carefully to determine prerequisites.

**Using University Studies Courses to Meet Graduation Requirements**

1. Students may use University Studies courses toward meeting the requirements in any minor requiring the course.
2. Students may use Basic Skills courses to satisfy both University Studies and major requirements.
3. Students may use courses in the Arts and Sciences Core to meet both University Studies and major/option requirements only if they are Additional Requirements courses.
4. Students may use Unity and Diversity courses to satisfy both University Studies and major/option requirements.
5. Students may use Flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student’s major or minor program. All Flag courses require the relevant Basic Skills course(s) as prerequisites (e.g., the “College Reading and Writing” Basic Skill course is a prerequisite for Writing Flag courses). However, departments and programs may require additional prerequisites for Flag courses.

**Certified as Having Completed Minnesota Transfer Curriculum (MNTC) Areas:**

- Written and Oral Communication (MNTC Goal 1)
- Mathematics/Symbolic Systems (MNTC Goal 4)
- The Humanities—the Arts, Literature, and Philosophy (MNTC Goal 6)
- Natural Sciences (MNTC Goal 3)
- History and the Social and Behavioral Sciences (MNTC Goal 5)
- Critical Thinking (MNTC Goal 2)
- People and the Environment (MNTC Goal 10)
- Human Diversity (MNTC Goal 7) & Global Perspective (MNTC Goal 8)
- Ethical and Civic Responsibility (MNTC Goal 9)

**Satisfied Winona State’s Requirements in University Studies Areas:**

- College Reading and Writing and Oral Communications (Basic Skills)
- Mathematics (Basic Skills)
- Physical Development and Wellness (Basic Skills)
- Humanities and Fine and Performing Art (Arts and Sciences Core)
- Natural Science (Arts and Sciences Core)
- Social Science (Arts and Sciences Core)
- Critical Analysis (Unity and Diversity)
- Science and Social Policy (Unity and Diversity)
- Multicultural Perspectives or Global Perspectives (Unity and Diversity)
- Contemporary Citizenship or Democratic Institutions (Unity and Diversity)

WSU’s general education requirements comprise three areas within the University Studies requirements described on page 19 of this catalog:
- **Four Basic Skills:** College Reading and Writing, Oral Communication, Mathematics, and Physical Development & Wellness
- **Four Arts and Sciences Core Requirements:** Humanities, Natural Science, Social Science, and Fine and Performing Arts
- **Four Unity and Diversity Requirements:** Critical Analysis, Science and Social Policy, Global or Multicultural Perspectives, and Contemporary Citizenship or Democratic Institutions.

A current list of courses that meet these requirements can be viewed online at www.winona.edu/registrar.

If a student transferring from WSU to another school that participates in the Minnesota Transfer Curriculum (MNTC) has completed some but not all the University Studies Program requirements, then he or she will be certified as having completed those areas of emphasis indicated by the table below.

Note: For students whose initial enrollment was fall 2006 or later, introductory or beginning world language courses do not count toward any of the MNTC goals although such courses typically fulfill Humanities requirements in the University Studies Program.

Successful completion of University Studies Program flagged requirements will not result in certification of completion of MNTC areas of emphasis. Students transferring to a college or university outside Minnesota or to a Minnesota institution that does not participate in the Minnesota Transfer Curriculum may have their transcripts evaluated on a course-by-course basis.

**Certified as Having Completed Minnesota Transfer Curriculum (MNTC) Areas:**

- Written and Oral Communication (MNTC Goal 1)
- Mathematics/Symbolic Systems (MNTC Goal 4)
- Does not satisfy any MNTC area
- The Humanities—the Arts, Literature, and Philosophy (MNTC Goal 6)
- Natural Sciences (MNTC Goal 3)
- History and the Social and Behavioral Sciences (MNTC Goal 5)
- Critical Thinking (MNTC Goal 2)
- People and the Environment (MNTC Goal 10)
- Human Diversity (MNTC Goal 7) & Global Perspective (MNTC Goal 8)
- Ethical and Civic Responsibility (MNTC Goal 9)
Overview of University Studies Components

BASIC SKILLS (12 S.H.)

College Reading and Writing (ENG 111; 4 S.H.): Increase students' critical reading, thinking, and writing skills. Help students develop a mature writing style; establish foundation for the reading-writing done in later college courses. Students should take ENG 111 during the first year of college.

Oral Communication (CMST 191; 3 S.H.): Develop skill in expressing ideas effectively in individual and group formal presentations; establish the foundation for the communications required in later college courses. Students should take CMST 191 during their first two years of college.

Mathematics (3 S.H.): Develop an appreciation of the uses and usefulness of mathematical models of our world as applied in a variety of specific contexts. Should be taken during the first year, but no later than the student’s third semester.

Physical Development and Wellness (2 S.H.): Provide knowledge and practical skills in lifetime physical activity, health awareness, and wellness. Courses complement and enhance students’ educational foundation by demonstrating how to live a healthy lifestyle.

ARTS AND SCIENCES CORE (22 S.H.)

Humanities (6 S.H.): Provide a framework for understanding the nature and scope of human experience. Courses explore the search for meaning and value in human life by examining its expression in cultural forms and texts, literature, and the arts.

Natural Science (7 S.H.): Provide students the tools to understand and apply the methods by which scientific inquiry increases our understanding of the natural world. One laboratory course is required.

Social Science (6 S.H.): Help students to understand and explain economic, political, psychological, and sociological perspectives regarding human behavior.

Fine and Performing Arts (3 S.H.): Offer students opportunities for creative expression. Courses develop basic skills and aesthetic awareness in tandem with a fundamental understanding of artistic traditions and contemporary expressions.

UNITY AND DIVERSITY (12 S.H.)

Critical Analysis (3 S.H.): Develop critical thinking or analytic problem-solving skills, including the ability to identify sound arguments and distinguish them from fallacious ones.

Science and Social Policy (3 S.H.): Promote students’ understanding of the interrelated concerns of society and the sciences. Courses integrate issues related to one of the sciences with the social and government policy decisions that stem from these issues.

GLOBAL OR MULTICULTURAL PERSPECTIVES (3 S.H.):

Global Perspectives: Improve students' understanding of the growing inter-relatedness of nations, people, and the environment. OR:

Multicultural Perspectives: Develop students’ understanding of diversity within and among societies.

CONTEMPORARY CITIZENSHIP OR DEMOCRATIC INSTITUTIONS (3 S.H.):

Contemporary Citizenship: Provide students with the ability to participate as effective citizens in a democratic, multicultural, and global society. OR:

Democratic Institutions: Help students understand basic concepts of social justice, the common good, and the legitimate scope of government in a democratic and pluralistic society.

FLAG REQUIREMENTS (12 S.H.)

Oral Flag (3 S.H.): Complete the process of providing WSU graduates with the knowledge and experience required to become highly competent communicators by the time they graduate.

Writing Flag (6 S.H.): Reinforce the outcomes specified for the basic skills area of writing. Courses emphasize writing as essential to academic learning and intellectual development.

Mathematics/Statistics or Critical Analysis Flag (3 S.H.):

- Mathematics/Statistics: Provide students with significant practice in applying prerequisite mathematics or statistical knowledge. OR:
- Critical Analysis: Provide students with significant practice in rigorous argument comparable to what a student is expected to receive in a mathematics/statistics flag course.

APPROVED USP COURSES

Note: The list of approved University Studies courses is continually updated as additional or new courses are approved for various levels of the University Studies Program. The most up-to-date list of courses is available at www.winona.edu/registrar. Students are expected to check all course descriptions carefully to determine prerequisites.

BASIC SKILLS (12 S.H.)

COLLEGE READING & WRITING (4) - MNTC Goal 1-

ENG 111 College Reading and Writing (4)
ENG 112 Research Writing (1) (must be combined with transfer credit)

ORAL COMMUNICATION (3)

CMST 191 Introduction to Public Speaking (3)

MATHEMATICS AND STATISTICS (3) - MNTC Goal 4-

100 Survey of Math (3)
110 Finite Mathematics (MATH) (3)
115 College Algebra (3)
120 Precalculus (3)
130 Matrix Algebra (3)
140 Applied Calculus (3)
150 Modeling Using Precalculus and Statistics (3)
155 Calculus Based Modeling (3)
160 Calculus I (4)
165 Calculus II (4)
110 Fundamentals of Statistics (STAT) (3)
210 Statistics (STAT) (3)

PHYSICAL DEVELOPMENT AND WELLNESS (2)

Health, Exercise and Rehabilitative Sciences (HERS)

204 Personal and Community Health (3)
205 Nutrition for Lifetime Wellness (3)

Physical Education and Sport Science (PESS)

Activities (1 S.H. each): 100, 101, 102, 103, 104, 112, 120, 122, 123, 134, 135, 137, 139, 140, 141, 142
144 Contemporary Activities (1)
199 Lifetime Fitness (2)
214 Standard First Aid and CPR (2)
Recreation, Tourist and Therapeutic Recreation (RTTR)

144 Contemporary Activities (1)
239 Outdoor Pursuits (3)

ARTS & SCIENCES CORE (22 S.H.)

HUMANITIES (6 S.H.)

Note: For students whose initial enrollment was fall 2006 or later, introductory or beginning world language courses do not count toward any of the Minnesota Transfer Curriculum goals. Introductory language courses include: ARAB 101, 102, CHIN 101, 102; ENG 106; FREN 101, 102; GERM 101, 102; JPN 101, 102; and SPAN 101, 102.

Arabic (ARAB)
101 Arabic for Beginners (4)
102 Introduction to Arabic Grammar and Literature (4)

Art - MNTC Goal 6-

109 Introduction to Art (3)
221 Art History I (3)
222 Art History II (3)
224 American Art (3)

Chinese (CHIN)
101 Beginning Chinese I (4)
102 Beginning Chinese II (4)

Communication Studies (CMST) - MNTC Goal 5-

289 Gender and Communication (3)

English (ENG) - MNTC Goal 6-

106 ESL: Academic Reading and Writing I (3) (Exception: ENG 106 does not count toward MNTC goals. See Note above.)
120 Introduction to Literature (3)
240 Young Adult Literature (3)

Foreign Languages (FREN, GERM, SPAN)
101 Elementary French I (4)
102 Elementary French II (4)
101 Elementary German I (4)
102 Elementary German II (4)
101 Elementary Spanish I (4)
102 Elementary Spanish II (4)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
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<tr>
<td>History (HIST) - MNTC Goal 5-</td>
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<tr>
<td>120</td>
<td>Western Civilization to 1500</td>
<td>3</td>
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<tr>
<td>121</td>
<td>Western Civilization 1500-1815</td>
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<tr>
<td>122</td>
<td>Western Civilization 1815-Present</td>
<td>3</td>
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<tr>
<td>150</td>
<td>United States History to 1865</td>
<td>3</td>
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<tr>
<td>151</td>
<td>United States History Since 1865</td>
<td>3</td>
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<tr>
<td>214</td>
<td>The Mississippi River in U. S. History</td>
<td>3</td>
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<tr>
<td>Humanities (HUM) - MNTC Goal 6-</td>
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<td>140</td>
<td>Approaches to Film</td>
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<td>Japanese (JPN)</td>
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<tr>
<td>101</td>
<td>Beginning Japanese I</td>
<td>4</td>
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<tr>
<td>102</td>
<td>Beginning Japanese II</td>
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<td>Music (MUS) - MNTC Goal 6-</td>
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<td>109</td>
<td>Introduction to Music</td>
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<td>112</td>
<td>Musical Culture Along the Mississippi River</td>
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<td>113</td>
<td>Women in Music</td>
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<td>122</td>
<td>History of Rock Music</td>
<td>3</td>
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<td>Philosophy (PHIL) - MNTC Goal 6-</td>
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<td>120</td>
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<td>201</td>
<td>Classical Philosophy</td>
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<td>230</td>
<td>Moral Theory</td>
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<td>240</td>
<td>Philosophy of Science</td>
<td>3</td>
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<td>260</td>
<td>Problems in Philosophy</td>
<td>3</td>
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<td>270</td>
<td>Philosophy of Religion</td>
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<td>280</td>
<td>Philosophy of Art</td>
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<td>301</td>
<td>Early Modern Philosophy</td>
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<td>302</td>
<td>Contemporary Philosophy</td>
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<td>Residential College (RESC) - MNTC Goal 6-</td>
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<td>140</td>
<td>Topics in Humanities</td>
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<td>Natural Sciences (7 S.H.)</td>
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<td>Biology (BIOL) - MNTC Goal 3-</td>
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<td>Natural History</td>
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<td>211</td>
<td>Anatomy and Physiology I</td>
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<td>Anatomy and Physiology II</td>
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<td>Basics of Life</td>
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<td>Organismal Diversity</td>
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<td>Chemistry (CHEM) - MNTC Goal 3-</td>
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<td>100</td>
<td>Chemistry Appreciation</td>
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<td>106</td>
<td>Chemistry in Our World</td>
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<td>107</td>
<td>Chemistry in Our World with Lab</td>
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<td>Introductory General Chemistry</td>
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<td>Chemistry for Health Sciences</td>
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<td>Principles of Chemistry I</td>
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<td>Geoscience (GEOS) - MNTC Goal 3-</td>
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<td>Minnesota’s Rocks and Waters</td>
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<td>Catastrophes and Extinctions</td>
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<td>Astronomy with Laboratory</td>
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<td>110</td>
<td>Oceanography with Laboratory</td>
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<td>111</td>
<td>Oceanography</td>
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<td>115</td>
<td>Meteorology with Lab</td>
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<td>Dynamic Earth with Lab</td>
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<td>General Physics I</td>
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<td>University Physics II</td>
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<td>Science Education (SCIE) - MNTC Goal 3-</td>
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<td>Investigative Science I: Earth the Water Planet</td>
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FLAG REQUIREMENTS (12 S.H.)
Students may use University Studies Flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student's major or minor program. In this catalog, flag course offerings are listed in each academic department's program description. The list of Flag courses is continually updated as additional or new courses are approved. For the most recent list of approved flag courses in the University Studies Program, see www.winona.edu/registrar.

MAJOR/MINOR REQUIREMENTS
In addition to University Studies requirements, all students in baccalaureate degree programs must complete requirements for an academic major or specialization. The major provides the student with in-depth practical and theoretical knowledge in a particular area of study. Many majors or areas of specialization offer students alternative paths of study or options. Students are also encouraged to pursue their interests by taking elective courses related to their major. Some degree programs require the student to complete a minor.

To declare a major, minor, or licensure program, complete the following steps:
1. Determine what major/minor program you wish to pursue. Check the program descriptions in this catalog to determine the major/minor program requirements. Because requirements may have changed since this catalog was printed, you are advised to consult with the Registrar’s Office and the department offering the major or minor before making academic decisions.
2. If the major/minor program you wish to pursue is not listed in the current catalog, consult with the appropriate academic department to determine program requirements.
3. Complete the Declaration/Change to Major/Minor/Licensure Program form, and submit it to your academic advisor, or the Registrar’s Office. When you declare (or change) your major/minor/ licensure program, you must conform to the requirements effective on the date indicated on the Declaration/Change to Major/Minor/Licensure Program form.

Program requirements must be completed within seven years after declaring or changing a major/minor/certification. If the seven-year limit expires before the student completes the program requirements, the student must then complete the program requirements currently in effect.
GRADUATION REQUIREMENTS

Four-Year Graduation Guarantee
   The offer of a Four-year Graduation Guarantee is extended to “first-time-in-college” students who declare certain majors at the time of matriculation. If the student signs a guarantee and complies with its terms and conditions, the student is assured graduation after completing four years of full-time study. If a student signs a guarantee and complies with the conditions but does not receive a diploma, WSU promises that the student can complete any remaining required courses tuition-free. For more information, contact the appropriate department or college dean.

To determine whether the major you intend to declare participates in the Four-year Graduation Guarantee Program, contact the Office of Admissions (Maxwell Hall).

Associate in Arts Degree - AA (Two-Year)
   To be eligible for graduation, the student must satisfy the following requirements:
   1. Complete a minimum of 64 credit hours.
   2. Complete at least 16 of the 64 credit hours at WSU.
   3. Complete the University Studies Program requirements except for the Flag Requirements.
   4. Accumulate an overall “C” average (2.00 GPA or higher).
   5. Be enrolled at WSU during the semester of graduation.
   6. Submit a completed Graduation Application to the Registrar’s Office at least two semesters before the expected graduation date. See page 17 for the detailed application, approval, and notification procedures.

Baccalaureate Degree (Four-Year)
   To be eligible for graduation, a student must satisfy the following requirements:
   1. Complete a minimum of 128 credit hours.
   2. Complete at least 30 of the 128 credit hours in residence during the junior and senior years combined. Residence credit is credit for classes taught by WSU faculty as well as credit earned under the Minnesota State University Common Market Program; it does not include credit by examination.
   3. Complete the University Studies Program requirements.
   4. Accumulate an overall “C” average (2.00 GPA or higher).
   5. Be enrolled at WSU during the semester of graduation.
   6. Bachelor of Science—Teaching (BT) candidates must complete the Professional Education Sequence, including student teaching. See page 91, “Admission to the WSU Teacher Education Program.”

   Note: The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

   7. Complete, with a “C” average, either a broad major of 47 credit hours or more or a major of fewer than 47 credit hours combined with a minor or a second major. (With a broad major, a minor is not required.) Students should be aware of the following considerations related to the major requirements:
      a. A student cannot have a minor, option, or concentration that consists wholly of courses that are required in the major or option in which he/she is earning a degree.
      b. Students can use a course to meet requirements in any major, minor, option or concentration requiring the course. However, they may not use a course in their major to meet arts and sciences core requirements unless it is an additional requirement (see page 18). Credit earned in a course counts only once toward the minimum 128 semester credits required for graduation.
      c. If the major has more than one option or concentration, the minor requirement may not be fulfilled with a second option or concentration in that major. However, a student may take a major and a minor in the same department, unless the department prohibits that practice.
      d. Certain departments require students to earn a “C” or better in each course within their major/minor or to earn a “C” or better in specific courses in their major/minor. Students should consult with the department offering the major or minor for any additional GPA requirements.
      e. The major GPA does not include grades earned in additional requirements courses. (For more information, see page 18.)
   8. Submit an Application for Graduation to the Registrar’s Office. See page 17 for more details about how to apply for graduation.

Notes:
   • No degree is awarded until all grades are finalized; “I” or “IP” grades cannot remain on the permanent record.
   • The student has the final responsibility for selecting and registering in courses that meet curriculum requirements.

Dual Majors
   If a student completes two or more majors, a single degree is awarded based upon the primary major. A student’s default primary major is the major with the greatest number of credits. Any additional majors are listed on the student’s transcript under the degree to be awarded. If any of the majors fall under different degrees (for example, one major leads to a Bachelor of Arts and another leads to a Bachelor of Science), the student may choose either degree. (Students seeking additional or dual degrees should see the information below.) Students completing dual majors may use the second major as a minor if they are only receiving one degree.
   Students are encouraged to choose the Bachelor of Science—Teaching (BT) degree if they are seeking a teaching license.

Additional Majors/Minors
   WSU graduates may return for an additional major/minor by completing all of the requirements for that major and/or minor. If a student completes another major/minor, the additional major/minor is recorded on the permanent record. Students without a WSU degree cannot earn an additional major and/or minor unless they complete the degree requirements. (See “Dual Degrees” below.)

Dual Degrees
   If a student wishes to complete two concurrent degrees, (for example, Bachelor of Arts and Bachelor of Science), the student must complete a minimum of an additional 30 semester hours above the required 128 semester hours. Students must complete all major requirements under both degrees, including separate minors if required.

Additional Degree
   If a student returns after graduation from WSU to earn an additional (different) bachelor degree at WSU, the student must complete a minimum of 30 additional credits for the second degree. Students must complete all major requirements under the degree, including a minor if required. If a student completes another major but does not complete the additional 30 credits, the major is recorded on the permanent record, but the additional degree is not recorded nor is another diploma awarded. The student receives only one diploma for each degree earned.

Teaching Degree Requirements for Post-Baccalaureate Students
   A Bachelor of Arts graduate who holds a degree from WSU or another accredited institution may qualify for teacher licensure by complying with certain requirements, which are detailed in the Department of Education section on page 93.

   Note: The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

ALTERNATIVES FOR EARNING ACADEMIC CREDIT
   In addition to taking courses described in this catalog, students may make progress toward academic and career goals by:
   1. Participating in special learning activities described in the catalog section entitled, “Other Academic Resources” (e.g., Cooperative Program with St. Mary’s University, Minnesota State University Common Market program; Outreach and Continuing Education Department, Study Abroad Program). (See page 28.)
   2. Exercising alternatives such as credit by examination, independent study, internships, which are described in this section of the catalog.

Credit by Examination
   If students can satisfy the requirements of a particular course by a written or oral examination, they may be able to get credit by departmental examination without formally enrolling in the course. This policy allows students to receive credit if they have completed equivalent study at a non-accredited school or if they can present evidence of independent study and related work experience. Students cannot use this process to repeat a course to improve a grade.
   To be eligible, the student must be fully matriculated with a minimum 2.00 GPA at WSU and enrolled at the University during the semester in
which a credit by examination is requested. To apply, the student should request a Credit by Examination form from the Registrar's Office (Maxwell Hall) and obtain the necessary approvals from the academic dean and department offering the course to be credited.

Credit for Life-Work Experience
Students may obtain credit for prior learning acquired outside the traditional institutional setting. Students may request evaluation of prior learning by submitting a portfolio. If a student can demonstrate to the WSU faculty evaluators that what he/she has learned is substantially equivalent in level and depth of knowledge to what the student would acquire in the classroom, the faculty member may recommend the awarding of equivalency credits. All equivalency credits are awarded on a pass/no credit basis. For more information or to begin the application process, students should contact an Adult Entry Advisor in the Outreach and Continuing Education Department (Somsen Hall, Room 109, 457-5080).

Substitution of a Course
A student may request that a particular course be substituted for a course required in the student's major or minor. The course to be substituted may be one that the student has completed at WSU or at another college/university; it should carry the same credit and level as the course it is to replace. To request a course substitution, students should request an application from the Registrar's Office (Maxwell Hall) and obtain approvals from the academic department offering the course. Course substitutions are not reflected on the academic transcript.

Audited Courses
The auditing procedure permits a student to attend a course without performing graded work. An audited course appears on the student's transcript, but carries no academic credit. Audited courses cannot be used to satisfy graduation, certification, or licensure requirements. Courses pursued on an audit basis must be declared and processed during the registration period. A decision to change from a graded basis to an audit basis must be finalized by the published add/drop deadline for the semester. Regular tuition charges apply. See page 15 for registration information.

Independent Study
Projects beyond the scope or range of any courses offered at WSU can be pursued as independent study at the discretion of the appropriate faculty member, department chairperson, and dean. To be eligible, the student must be fully matriculated with an established cumulative GPA at WSU of 2.00 or higher. Students must apply for independent study according to announced deadlines (see Academic Calendar) and register for the course during the designated registration period. See page 15 for registration information.

Internships
Internships provide students academic credit for a supervised on-the-job work experience. Students apply the knowledge and skills learned in an academic setting to a professional work environment. A number of departments offer specific courses granting internship credits. Students must be fully matriculated to enroll in an internship. WSU policy indicates that students must have a minimum GPA or 2.00 to enroll in an internship; however, some departments require a higher minimum GPA.

University policy limits the number of credits that may apply toward a degree as follows: 12 internship credits per semester and 16 internship credits in total. In cases where combined internship credits in a major and/or minor will exceed 16 credits, a maximum of 21 semester credits may be applied toward graduation. However, individual departments may set a maximum number of credits awarded for internships.

Students should refer to the appropriate department listing for specific internship details, including minimum GPA, prerequisites, and credit limitations. Internships are offered on a pass/no credit basis, except three semester credits may be taken for a grade with approval of the department and academic dean. See page 15 for registration information.

GRADING AND CREDIT POLICIES
Credit Load
One hour of credit is granted for one lecture or class period of 50 minutes per week for 15 weeks. Most courses are credited with three or four semester hours. Laboratory classes, internships, practica, and other special courses typically offer fewer credits per hour of instructional time.

To be considered full-time, a student must take a minimum of 12 credit hours per semester. Students who wish to enroll in more than 19 semester credits must obtain prior approval from the academic dean of the College of their major prior to registration.

The University may restrict the number of credits in which a student can enroll if it determines that previous low scholarship, out-of-school obligations, or similar factors might interfere with satisfactory performance of the student's obligations. The University may restrict a student from registering if the student fails to follow proper registration procedures.

To complete degree requirements in four years (eight semesters), students must earn an average of 16 semester credit hours each semester. For more information about the four-year graduation guarantee, see page 23.

Class Attendance
In order to improve students' access to classes they need and want, the faculty has adopted a policy that requires student attendance at the first meeting of all classes. The purpose of this policy is to identify students who have decided to drop a particular class as early as possible so that students who want to enroll in that class will be able to do so.

If a student wishes to continue in a class but is unable to attend the first class meeting due to circumstances beyond his/her control, the student should notify the instructor or academic department before the first class meeting. If a student wishes to withdraw from a class, the student is responsible for dropping the class (page 27).

An instructor may choose to cancel a student's registration if the student fails to attend the first class meeting of a closed (i.e., full) class; however, the instructor is not required to do so. The student must not assume that the instructor will cancel his/her registration for a class, even if the class is closed. If the instructor cancels the student's registration, a notice will be sent to the student's permanent address.

Other than this policy regarding attendance at the first meeting of a class, the University has no overall policy governing class attendance. Each instructor establishes and announces an attendance policy and has the responsibility and authority for enforcing it.

Grading System
Work in any course is evaluated in accordance with the following system of letter grades:

- A - Excellent
- B - Very Good
- C - Average
- D - Below Average

- F - Failing
- NC - No Credit
- I - Incomplete
- P - Pass

The notation of "Z" on an unofficial transcript indicates that no final grade has been reported yet. At the close of a semester, a "Z" grade is replaced with one of the other grades.

Grade Point Average (GPA)
Each semester hour of credit attempted receives honor points according to the following:

- Each "A" credit = 4 GPA points
- Each "B" credit = 3 GPA points
- Each "C" credit = 2 GPA points
- Each "D" credit = 1 GPA point
- Each "F" credit = 0 GPA points

The GPA is computed by dividing the total number of GPA points by the total number of GPA credits attempted. The frequently referred to "C" average is a 2.00 grade point average. The major and minor GPAs do not include Additional Requirements (i.e., Arts and Sciences courses outside the major department that are required courses in certain majors; see page 18). Although courses taken on a pass/no credit basis grant credit toward graduation, the credit does not affect the GPA.

Note: For probation and suspension decisions, only courses and credits taken at WSU count in the computation of GPAs.
Incomplete Grades
An “Incomplete” is reserved for special cases in which the student, for reasons beyond his/her control, is unable to finish an important assignment or other required coursework by the end of the semester, though the student is passing in all other aspects. An incomplete grade cannot be used to gain time to perform extra credit work to improve a potentially low course grade.

Students must complete the prescribed requirements of the course before mid-term of the next semester. Once the requirements are satisfied, the instructor will submit a completed Change of Grade/Incomplete form to the Registrar’s Office. The Registrar must receive a grade to replace the “I” by mid-term of the next semester. If an “I” is not replaced with a grade within the specified time, the incomplete grade automatically becomes a failing grade.

In-Progress Grades
An instructor may assign a grade of IP (“In Progress”) to a student who is in a course that is not expected to end at the close of a semester. Certain internships and arranged classes, for example, are designed to continue beyond the close of a semester. If an “IP” is not replaced with a grade within one year of the close of the semester in which the course was offered, it becomes a failing grade.

Repeated Courses
When a student repeats a course, he/she must take the course on a regular graded basis (i.e., letter grade). When a student repeats a course, only the last grade received and credits earned are included in the GPA computation. If the student withdraws (W) while repeating a course, the original grade is included in the GPA computation.

At registration, the student must submit the appropriate forms to the Registrar’s Office, indicating that a particular course is being repeated. Without this notification, the student’s academic records may be adversely affected. Students should be aware that repeating courses will slow their academic progress and may delay graduation, because they will only receive credit for the most recent offering of the course. Once a baccalaureate degree has been awarded, the student cannot repeat any course to improve his/her GPA.

Pass/No Credit (P/NC) Courses
The University’s P/NC grading classification enables students to enroll in unfamiliar or difficult academic subjects without fear of jeopardizing their GPA. It is intended to introduce students to lifelong learning—learning that does not include the traditional reward or penalty of a grade.

Although courses taken on a P/NC basis grant credit toward graduation, the credit does not affect the cumulative GPA. When the course is completed, either P (pass) or NC (no credit) is entered in the student’s permanent record. P is interpreted as equivalent to an A, B, C or D letter grade. If the student receives a “grade” of NC, the course can be repeated; however, it must be repeated for a letter grade, and the grade will be included in the student’s GPA (see “Repeated Courses” above).

Departments designate which courses are required or permitted to be taken on a P/NC basis. Major, minor, or professional courses generally are not included; however, a department chairperson, in consultation with the instructor and the dean, may approve an exception. The department may permit the course to count toward the major/minor requirements if a student selects a major or minor after taking a course in the department on a P/NC basis.

Students cannot take more than six P/NC credits per semester except for student teaching and internships. The six credits include both optional P/NC classes and classes in which P/NC grading is mandatory.

Additionally, the total number of credits for graduation may not include more than 32 “Pass” credits. Optional P/NC courses, mandatory P/NC courses, student teaching and/or internships all are counted in the 32-credit limitation. For optional P/NC courses, the student must decide, by the last day of the drop/add period, whether the course is being taken on a P/NC basis. See page 16 for more information about declaring/changing the grade method for a course.

Final Examinations
A final examination is required for every course taught at WSU. The course instructor determines the content of the final examination. Students can find out when an exam is to be given by going to www.winona.edu/class_schedule and clicking on the link to the appropriate semester’s exam schedule. Exams are scheduled according to the following guidelines:
- Because the semester extends through the final exam week, courses are expected to meet as designated in the final exam schedule.
- An instructor who wishes to reschedule an exam during final exam week must receive prior approval from the college dean.
- Courses of more than two credits will have final exam times determined by the day the class first meets for lecture each week. Final exams for classes beginning on Monday, Wednesday, or Friday will meet at MWF times. Final exams for classes beginning on Tuesday or Thursday will meet at TH times.
- Examinations in classes offered for one or two credits will be given during the last regularly scheduled class period prior to the first day of the final examination schedule.
- The responsibility for allowing exceptions for individual students rests with the student and the instructor.
- The content of the final examination is determined by the course instructor, who is encouraged to consult with the students prior to giving the final.
- Evening class final exams adhere to the published schedule for evening classes. All other classes follow the day class schedule.
- Some classes may begin at times other than the regularly scheduled start times. Final exams for these classes will be held at the examination time schedule for the class period in which the start time of the class falls (example: a class beginning at 9:00 a.m. Tuesday and Thursday will have its final exam at the time scheduled for 8:00 - 9:20 a.m. TH classes).

GRADE APPEAL POLICY
The evaluation of student performance in courses and the reporting of appropriate grades are faculty responsibilities. However, students sometimes feel that their academic work has been evaluated unfairly. The process for student appeals of grades is as follows:

1. Any student who wants to appeal a grade must confer with the instructor within the first 10 academic calendar days of the next term (excluding summer terms) in an attempt to resolve the dispute.
2. If the student and the faculty member come to agreement, the process ends.
3. If the student and the faculty member do not come to agreement, then the student may file a written grade appeal, using the Grade Appeal form, which is available in the Registrar’s Office and at the University Center Rochester student services desk. The written appeal must be sent to the Grade Appeals Committee chairperson within 30 academic calendar days of the next term (excluding summer terms); a copy of the appeal must be sent to the Vice President for Academic Affairs.

A Hearing Committee, which is a subcommittee of the Grade Appeals Committee, will review the case as presented by the student and the faculty member. Both parties are entitled to assistance and advice from members of the academic community in presenting their case to the subcommittee. The Hearing Committee may recommend that the instructor do one of the following:

a. Make no change in the grade
b. Re-evaluate the student’s academic work
c. Change the grade

The finding of the Hearing Committee is final. It will be conveyed to the student, the instructor, the Vice President for Academic Affairs, and the chairperson of the Grade Appeals Committee. Within seven (7) calendar days, the course instructor will inform the student, Grade Appeals Committee chairperson, and the Vice President for Academic Affairs of the action taken regarding the Hearing Committee’s recommendation. The instructor is not obligated to comply with the recommendation of the Hearing Committee.

ACADEMIC PROGRESS
Classification of Students
Based on credit hours completed, students are classified as follows:

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 29</td>
<td>Freshman</td>
</tr>
<tr>
<td>30 - 59</td>
<td>Sophomore</td>
</tr>
<tr>
<td>60 - 89</td>
<td>Junior</td>
</tr>
<tr>
<td>90+</td>
<td>Senior</td>
</tr>
</tbody>
</table>

Freshmen are not eligible to enroll in courses numbered in the 400-level. In order to make continuous progress toward a four-year degree, a student must maintain an average of 16 credits per semester. A “freshman,” therefore, is usually a first-year student; a sophomore is usually a second-year student, and so forth. Because a student’s credit load in any semester may vary from the average, classification by credit hours is a more informative indicator of progress toward a degree than time spent in school.

Satisfactory Progress
To maintain good academic standing, a student must have a minimum WSU cumulative GPA of 1.75 for the first 15 degree credits attempted and 2.00 thereafter. The cumulative GPA used to determine satisfactory
progress is based solely on courses attempted and grades earned at WSU. In addition, a student must complete at least 67% of credits attempted to maintain good academic standing.

The satisfactory progress requirements that are used to determine eligibility for financial aid (page 11) are more stringent than the requirement listed in this section.

Academic Honors

WSU offers many opportunities for students to achieve academic honors including the Dean’s List and Graduation with Honors. Students are encouraged to take advantage of the various department-level and university-level opportunities to earn recognition for their academic excellence and achievements.

WSU belongs to several national fraternities that recognize scholarship and a commitment to service, including Alpha Lambda Delta (first-year students with 3.50 GPA), Golden Key International Honor Society, the National Society of Collegiate Scholars (NSCS), and the National Residence Hall Honorary Society.

Honor Societies

Some academic departments have joined national honors societies, and other departments are in the process of doing so. If your major is not included in the following list, contact the chairperson of your department to learn what activities are underway regarding honor societies.

- Biology
- Communication Studies
- Education
- History
- Mathematics
- Nursing
- Political Science
- Psychology
- Statistics

Department Honors Programs

Some departments have honors programs with specific requirements for admission and an honors thesis project. For information, see the department’s program description in this catalog or the department’s website.

Dean’s List

Undergraduate students are included on the Dean's List if they complete 12 semester hours or more for letter grades at WSU (not including pass/no credit) during any one semester and achieve a GPA of 3.50 or higher.

Graduation with Honors

Honors are awarded to WSU graduates whose academic record as reflected by their grade point average (GPA) illustrates significant academic achievement. To qualify for “Graduation with Honors,” a student must meet the following requirements:

- Students receiving a baccalaureate degree must complete 30 credits in residence during their junior and senior years (i.e., a minimum of 30 credits of WSU coursework).
- Students receiving an A.A. degree must complete 16 credits in residence.
- Achieve a minimum GPA of 3.60 for all WSU coursework.
- Achieve an overall GPA of 3.60, including any college-level transfer work. Students who do not meet all of the above requirements are not eligible for Honors. (Note: All GPAs are truncated and not rounded; for example, 3.2499 is truncated to 3.24.)

Examples

- Student has a 3.59 WSU GPA and a 4.00 Transfer GPA: WSU GPA is too low to qualify for honors.
- Student has a 3.60 WSU GPA and a 3.59 Transfer GPA: Combined GPA is too low to qualify for honors.
- Student has a 4.00 WSU GPA and a 3.00 Transfer GPA: Student must qualify if overall GPA is above 3.60.
- Student has a 3.60 WSU GPA and a 3.60 Transfer GPA: Student qualifies for honors.

Honors Standards through Fall 2008

Cum Laude: Overall GPA between 3.250 and 3.499
Magna Cum Laude: Overall GPA between 3.500 and 3.749
Summa Cum Laude: Overall GPA between 3.750 and 4.000

Honors Standards Effective Spring 2009

Cum Laude: Overall GPA between 3.600 and 3.749
Magna Cum Laude: Overall GPA between 3.750 and 3.899
Summa Cum Laude: Overall GPA between 3.900 and 4.000

Provisional (Commencement) Honors

Honors recognition for the commencement ceremony is based on the provisional determination of honors. This determination is made based on coursework completed prior to the term for which the student has applied to graduate. Provisional honors include any faculty grade changes for prior coursework on record at the midterm deadline of the graduation term (see academic calendar). Provisional honors also include administrative conversions (i.e., grades of “I” and “IP” to “F”) from prior terms on record following the midterm conversion deadline. Any faculty grade changes from prior terms recorded after the midterm deadline are not used to determine provisional honors.

Students who have not filed a Graduation Application prior to the published midterm date of their graduation term are not eligible for provisional honors. However, all graduating students will be reviewed for final honors.

Final Honors

Final honors are determined for all graduates after commencement and include all undergraduate coursework based on the standards and requirements above. A student’s honors status may change after the determination of final honors. Final honors are posted on the student’s transcript.

Academic Warning and Suspension

To remain enrolled in the University, students must be in good academic standing at the end of each academic year. A Notice of Academic Warning is sent to any student who is not in good academic standing at the end of the fall semester of each academic year. If, at the end of the spring semester, the student’s cumulative GPA or credit completion rate is below the minimum required for good academic standing, the Vice President for Academic Affairs will suspend the student. See page 25 for information about the policy for satisfactory progress.

Once a student is suspended, he/she can submit a written appeal for readmission. If the written appeal is denied, the student can appeal in person to the Academic Review Committee. If the appeal is granted, the student is eligible to return during the next academic year. Instructions for submitting an appeal are included in the Notice of Suspension.

Re-Admission after Suspension

If the student does not appeal a suspension or if the appeal is denied, the student must comply with the following suspension policy regarding University enrollment. The student cannot enroll:

- For one semester after receiving the first Notice of Suspension.
- For a full academic year after receiving a second Notice of Suspension.
- For two full academic years after receiving a third Notice of Suspension.

A student may enroll in courses at WSU during the summer sessions even though he/she has been suspended. Students who have returned to the University after complying with the suspension policy, but who do not return to good academic standing within the academic year in which they re-enroll, are subject to suspension again at the end of the academic year. For answers to specific questions regarding the suspension policy or procedures, contact the Advising and Retention Center.

Academic Pardon

The purpose of the academic pardon policy is to grant students a one-time pardon for past failures and to allow them to resume their college careers with a realistic possibility of completing a degree. Academic pardon may be attractive for a student who has left WSU with a very low GPA, gained life experience, and returned after an extended absence to resume degree work. If the student has not yet applied for graduation, he or she may request that grades earned during a specified period of the previous undergraduate career be held aside during calculation of an adjusted GPA, as described below.

Approval of academic pardon has the following consequences:

1. The cumulative GPA will be recalculated. The new GPA will be based on courses completed after the student was re-admitted. Grades and credits attempted during the period for which academic pardon has been approved will not be used in calculating the cumulative GPA that is printed on transcripts and in determining whether graduation requirements have been met.
2. Courses in which the student received a grade of “C” or better prior to being re-admitted will be used for academic credit but not used in calculating the GPA.
3. The following statement will appear on transcripts of the student's academic record: “This student was granted Academic Pardon under the WSU Academic Pardon Policy: All WSU courses with a grade of “C” or better taken prior to re-admission and granting of academic pardon were
given academic credit, but were not used in the calculation of the WSU GPA.”

4. Grades the student received during the period of academic pardon will remain unchanged as a permanent part of the student’s academic record and will be printed on all transcripts of that record.

5. The student must meet all major/program requirements in effect at the time he/she was re-admitted.

6. The student is not eligible for academic honors at graduation (i.e. Cum Laude, Magna Cum Laude, Summa Cum Laude).

DROPPING CLASSES

Registration in a course obligates each student to pay tuition and other fees unless the course is dropped before the drop-without-tuition-obligation deadline. The refund deadline is the fifth class day of full-term courses. The deadline for short courses (three days or less) is the first class meeting. For short courses greater than three days, students have one day to drop with a refund.

Courses dropped before the deadline are not recorded on the student’s transcript. Courses dropped between the drop deadline and the final withdrawal deadline receive an administrative indicator of “W” (“withdrew”). Credits in courses with the “W” symbol are not included in the computation of GPAs.

Note: MnSCU requires WSU to charge tuition and fees based on course registration, not on attendance. Tuition and fee charges are based on all courses in which the student is enrolled after the drop deadline even if the student has never attended those classes.

In order to increase the number of students served, WSU allows instructors to drop students who do not attend the first class meeting. However, instructors may drop students from closed classes only, but they are not required to do so. Therefore, students are responsible for dropping any class that they have decided not to take. Students must not assume that someone else will take care of it for them. Students may drop classes using either the WSU website or staff assistance:

- If you use the website, always print a copy of your schedule after you have finished dropping classes. The printed copy confirms that the Internet transaction was completed. Also, your computer screen should display a message indicating that the transaction was successfully completed. If the message is not displayed, the transaction was not successful.
- If you use staff assistance, ask the staff person for a copy of your schedule.

WITHDRAWAL

Deciding Whether to Withdraw

If you are thinking about withdrawing during the semester, you owe it to yourself to be well informed and to consider all the consequences. Use the following checklist as you ponder this decision:

- Talk with your academic advisor. She/he will review your academic and career objectives and listen to your concerns. Your advisor can help you plan for completing your college education at a later time.
- Make an appointment to see one of the staff members in the Advising and Retention office (Maxwell Hall).
- If you are having academic difficulty in one or more of your classes, check out Tutoring Services or Student Support Services (Darrell W. Krueger Library). See page 28 for more information about specific services available and eligibility for these services.
- If you are not sure that you have chosen a major or career path that is right for you, visit the Career Services office (Maxwell Hall).
- If you are experiencing personal problems, help is available in the Counseling Center (Wabasha Hall).
- If you are experiencing illness, contact Student Health Services (Wabasha Hall).
- If you are having trouble paying tuition and fees, you may be able to work out a payment plan with the Office of Student Accounts (Maxwell Hall).
- If you are living on campus and are having problems with your roommate or accommodations, contact your Resident Assistant, Residence Hall Director, or the Housing and Residence Life office to find out what changes can be made (Kryzko Commons, Room 130; 457-5305).
- If you receive financial aid through the University and then withdraw during the term and, you may be expected to return part of the financial aid, corresponding to the portion of the semester in which you are not enrolled. If you plan to return to WSU or transfer to another school, leaving during the term may make you ineligible to receive government-sponsored financial aid in the future.

Withdrawing from the University

If, after exploring your options, you decide to leave the University, here is a checklist of things you should do.

- Be sure to drop your classes, either on the WSU website or with the assistance of staff members as follows:
  - Winona classes: Maxwell One-Stop Center (Maxwell Hall, Second Floor; 507-457-5030)
  - Rochester classes: UCR Service Desk (507-285-7100)
  - Extension classes: Outreach and Continuing Education (Somsen Hall, Room 109; 507-457-5080)
- Return your laptop computer to the Technical Support Center in Somsen Hall, Room 207. You are responsible for paying the laptop fee for any semester in which you are enrolled at WSU. If you are not enrolled and do not return the laptop by the start of the next semester, you will be charged a late fee.
- If you are leaving the University for only a semester or two, pick up an Intent to Return/Application for Readmission form at one of the registration offices above. Complete it and submit it at least one month before you plan to register for classes for your first term back.
- Check with the Office of Student Accounts (Maxwell Hall) to make sure your account is paid in full or to inform yourself of the balance on your account and the University’s collections policies.
- If you are leaving during the semester and have received financial aid through the University, contact the Office of Student Accounts (Maxwell Hall) to learn whether you will be expected to return any of the aid you have received.
- If you are living in a campus residence, formally check out of your room with your Resident Assistant or the Residence Hall Director.

You may withdraw from the University (drop all of your classes) anytime during the semester until the final withdrawal deadline. If you withdraw from the University within a few weeks after the “drop-without-tuition-obligation” deadline, you will receive a partial refund of tuition and fees, based on the date of your withdrawal, and in accordance with a pro-rated refund schedule (page 9). Each term’s pro-rated refund schedule is published on the WSU website.

ACADEMIC INTEGRITY POLICY

At WSU, academic integrity is based on honesty. The University community requires that work produced by students in the course of their studies represents their personal efforts and requires that students properly acknowledge the intellectual contributions of others.

WSU students are required to adhere to the University’s standards of academic integrity. The following are examples, not intended to be all-inclusive, of types of behavior that are unacceptable and will be viewed as violations of the academic integrity policy.

- **Cheating:** Using or attempting to use unauthorized materials in any academic exercise or having someone else do work for you. Examples of cheating include looking at another student’s paper during a test, bringing a “crib sheet” to a test, obtaining a copy of a test prior to the test date, or submitting homework borrowed from another student.
- **Deception and Misrepresentation:** Lying about or misrepresenting your work, academic records, or credentials. Examples of deception and misrepresentation include forging signatures, falsifying application credentials, and misrepresenting group participation.
- **Enabling Academic Dishonesty:** Helping someone else to commit an act of academic dishonesty. This would include giving someone else an academic assignment with the intent of allowing that person to copy it or allowing someone else to cheat from your test paper.
- **Fabrication:** Refers to inventing or falsifying information. Examples of fabrication include “drylabbing” (inventing data for an experiment you did not do or did not do correctly) or making references to sources you did not use in academic assignments.
- **Multiple Submissions:** Submitting work you have done in previous classes as if it were new and original work. Although faculty may be willing to let you use previous work as the basis of new work, they expect you to do new work for the class. Students seeking to submit a piece of work to more than one class should seek the permission of both instructors.
- **Plagiarism:** Using the words or ideas of another writer without proper acknowledgment, so that they seem as if they are your own. Plagiarism includes behavior such as copying someone else’s work word for word, rewriting someone else’s work with only minor word changes, and/or summarizing someone else’s work without acknowledging the source.
Due Process

“Due process” refers to the concept of fair treatment. Students accused of violating the academic integrity policy have the following due process rights:
1. Oral or written notice of the charges from the faculty member
2. An explanation of the evidence against the student
3. An opportunity for the student to present his/her side of the story
4. Notice of sanction(s) imposed (such as lowering a grade, failing the course, dismissal from a program, etc.)
5. An opportunity to appeal the sanction(s)

Students accused of academic dishonesty have the right to appeal a faculty member’s sanction to the Grade Appeals Committee. In cases involving accusation of academic dishonesty, the committee will make a recommendation to the appropriate academic dean rather than to the instructor, as is usually the case with standard grade appeals (page 25). The decision of the academic dean (or designee) is final.

Academic sanction appeals must be received in writing within five class days or, in the case of break periods, within five class days after returning from a break. A time extension may be granted upon request to the Grade Appeals Committee. Failure to submit a timely appeal or request for extension constitutes a waiver of any right to request an appeal.

The written appeal must be based on one or more of the following reasons:
1. The evidence from the meeting between the faculty member and the student does not support the outcome.
2. There are new or newly discovered facts not brought out in the original meeting, which may substantially affect the outcome.
3. There was a procedural error, which could have substantially affected the outcome of the meeting.
4. The sanction was excessively severe.

Under some circumstances, a sanction(s) more severe than academic sanction may be appropriate. The dean of the college(s) or designee where the alleged violation(s) occurred, in collaboration with the WSU Conduct Officer (or designee), will make the decision as to whether or not the case will be heard as a behavior discipline. If so, the case will be referred to the Office of Student Life and Development to be processed under the guidelines of the WSU Student Conduct Policy. Students found responsible for a violation(s) processed under the WSU Student Conduct Policy face disciplinary sanctions (such as probation, suspension, etc.).

Information pertaining to the WSU Student Conduct Policy is available in the Office of Student Life and Development (Kryszko Commons, Room 129) or at www.winona.edu/sld.

ACADEMIC RESOURCES

ACADEMIC ADVISING
Advising and Retention
Maxwell Hall, Third Floor (507-457-5600)
www.winona.edu/advising

WSU’s academic advising system is designed to help students make well-informed decisions. Students are ultimately responsible for being aware of the policies and requirements that affect their academic progress and for making appropriate decisions about choosing courses and a major, as well as other academic matters. Because this is a vital responsibility, the University offers the guidance of experienced professionals, through whom students learn about University objectives, requirements, support services, activities, and policies. As a result of advising, students should understand themselves better and learn to use resources to meet their specific educational needs.

Each student is assigned an advisor. Students who have declared a major are assigned an advisor in the department of their declared major. New students who have not declared a major are assigned to their orientation instructor for advising. Prior to each registration, the student must meet with the advisor to discuss course selection and obtain an access code for web registration. Students are encouraged to meet with their advisors at other times as well to discuss academic and career goals.

To get the greatest benefit from advising, each student should maintain a file of documents related to his or her academic progress and should bring the file to advising appointments. At a minimum, the file should include a copy of the student’s current schedule, electronic degree audit report (DARS), and unofficial academic record. These documents are available to the student through the web registration system. Students will find the name of their advisor printed on their course schedule and on the DARS report. If no advisor is listed, the student should contact the department offering his/her major to request an advisor. Students who have not declared a major should report to the Advising and Retention Center for assistance.

NEW STUDENT ORIENTATION
Advising and Retention
Maxwell Hall, Third Floor (507-457-5600)
www.winona.edu/advising/

To assist new students in their transition into the University, WSU offers an orientation course (OR 100, Introduction to Higher Education) for incoming first-year students. OR 100 begins with academic and social activities the week prior to the start of fall semester. This course introduces students to services, activities, expectations, and opportunities at WSU, and it provides them with the means to network with other students, faculty, and staff. Incoming students register for OR 100 (1 S.H.) during New Student Registration.

TUTORING SERVICES
Darrell W. Krueger Library, Room 220 (507-457-2486)
www.winona.edu/tutoring

Tutoring Services offers free peer tutoring and Supplemental Instruction (SI). Peer tutoring is available in a wide variety of subjects during drop-in hours or by appointment. SI sessions are regularly scheduled, informal review sessions in which students compare notes, discuss readings, and develop organizational and study tools under the guidance of a student who has already excelled in the course. Students can view information about Tutoring Services and other helpful WSU resources by accessing the web address above.

STUDENT SUPPORT SERVICES
Howell Hall, Room 133 (507-457-5463)
www.winona.edu/studentsupportservices

The Student Support Services is dedicated to providing individualized academic and personal support to facilitate lifelong learning and development. Student Support Services is designed to help students achieve their goal of graduating from college. The program provides a community of support for students who are first-generation college students, who have low income, or who have disabilities. Services include tutoring, academic advising, counseling, student leadership opportunities, and help in choosing a major. This is a federally funded TRIO program.

OTHER ACADEMIC RESOURCES

Cooperative Program: WSU-St Mary’s University of Minnesota
Registrar’s Office
Maxwell Hall (507-457-5030)

The cooperative program between WSU and St. Mary’s University of Minnesota (SMU) allows full-time, undergraduate WSU students to take classes at SMU and pay tuition for the credits at WSU. Participating students are required to take a minimum of nine credits at WSU during the semester in which they enroll in this program unless the department chairperson or the appropriate college dean approves an exception. To obtain information about participating in the program, students should contact the Registrar’s Office.

If the student decides to take a course at SMU, he/she must get a permit, which requires the approval of the student’s advisor and the WSU Registrar’s Office. Then the student must present the permit to the SMU Registrar’s Office for processing and return the approved permit to the WSU Registrar’s Office.
Minnesota State University Common Market Program
Registrar's Office
Maxwell Hall (507-457-5030)

Under the Student Exchange Program, a WSU student may attend another Minnesota state university for one semester per institution up to a total of three semesters at three different institutions. By doing so, students may take advantage of curriculum and program specialties as well as different intellectual and social climates. The home university considers credits earned under the program as "resident credit."

When students apply, they list the courses they want to take and usually include several alternate choices. The Common Market Director at the receiving institution notifies the student whether or not his/her request can be met. The student indicates his/her choice of housing on the application form, and the request is referred to the housing office at the receiving university. The student also receives assistance with transferring financial aid if necessary.

To participate in the Common Market Program, students must be fully matriculated, must have attended WSU for at least two consecutive semesters, and must have at least a 2.00 GPA. Catalogs and application forms are available in the Registrar's Office.

Outreach and Continuing Education Department (OCED)
Somsen Hall, Room 109 (507-457-5080)

OCED serves as a major hub for a broad network of community partners, learners, and businesses. OCED offers a variety of learning opportunities for students at different stages of their lives, and the office coordinates programs that strengthen the University's links with its service region. Programs include Adult Entry, Continuing Education, Customized Training, Extension Program, Senior Citizen Program, Professional Cooperative Education, Travel Study and others. OCED also actively seeks and creates opportunities for WSU to be a significant contributor to the business and economic development of our service region.

Adult Entry Program
The Adult Entry Program serves the educational needs of adult students within the University's service area, on and off campus. The program is for adults who want to pursue an Associate in Arts or a baccalaureate degree. This unique and innovative program features flexible admission requirements. It also provides the opportunity for an assessment and review of prior learning acquired through informal education or life/work experience. (A processing fee will apply.) WSU validates credits earned; the credits may apply toward a student's degree program. For more information, contact the OCED office.

Continuing Education
Continuing Education provides non-credit courses as well as courses offering continuing education units (CEUs). CEU courses and activities are taught by WSU faculty, community resource persons, or visiting experts. The courses frequently fulfill specialized learning needs identified by businesses and organizations. The CEU provides a standard measure for non-credit learning (1 CEU = 10 contact class hours) and is used for record keeping but does not fulfill the requirements for an academic degree. The CEU is recorded on the student's transcript and can serve as verification for continuing education activities.

Contact the OCED office to get detailed information about CEU offerings or to discuss how WSU may be able to provide learning resources for your organization.

Customized Training
WSU works closely with the business community including schools, industries, and nonprofit agencies to provide continuing education for their employees. Specialized programs and individual courses are designed to meet the needs of the company and can be delivered on-site at the business or on campus. Courses may be offered for credit or non-credit. For more information regarding customized training and education programs, contact the OCED office.

Extension Program
In addition to its regular programs, WSU offers a variety of on-campus and off-campus learning experiences for residents in the area. These courses may be undergraduate or graduate classes, and may be suitable for those seeking a degree or personal enrichment. Instruction for extension courses includes regularly scheduled evening, weekend, and daytime classes taught by WSU faculty; specially scheduled workshops and seminars; educational travel opportunities; and credit options for workshops and/or conferences scheduled by outside agencies.

Students are permitted to enroll in an undergraduate extension class without having been admitted to the University. However, graduate students must complete a WSU application form. Extension courses can apply toward appropriate degree programs. For more information, contact the OCED office.

Senior Citizen Program
All senior citizens who are legal residents of Minnesota (reciprocity is not available) can take WSU courses by special arrangement and within legislative limitations. A one-time fee of $20 is required for admission to this program.

A person is considered a senior citizen if he/she reached the age of 62 before the beginning of any semester in which he/she will be enrolling in a course. Students can register for courses on a no-credit basis at no cost, or they can register for credit on a fee basis, which requires a service charge of $20.00 per credit hour (amount subject to change). Enrollment is on a space-available basis. For registration details, contact the OCED office.

Professional Cooperative Education Program
The Professional Cooperative Education Program is a partnership between WSU and area businesses to help students earn money for college while gaining real-world experience at an established business. The experience is customized for each participant; therefore, the work experience they receive will enhance their educational goals. For more information, contact the OCED office.

STUDY ABROAD PROGRAM
Study Abroad Office
Minne Hall, Room 120 (507-457-5500)
www.winona.edu/studyabroad

A variety of Study Abroad Program options are available for students of at least sophomore standing who are interested in broadening their university experience and enhancing their resumes by including a living and learning experience in a foreign country. In addition to programs sponsored by WSU, students may select programs through other universities. Programs vary in location, length, cost, admission requirements, application deadlines, and focus; therefore, it is important to request the most recent and detailed information.

WSU Study Abroad options include academic programs in the following international locations:

• China: WSU has a study abroad agreement with Hebei University of Technology in Tianjin, China. Students with good academic standing can take courses in Chinese language. They can also take a range of courses offered in English in the social sciences and business areas of study. Students have the option of attending for a semester, summer session, or a full academic year.

• Japan: WSU has a study abroad agreement with Akita International University in northern Japan. Students with good academic standing can take courses in Japanese language. They can also take a wide range of courses offered in English in the social sciences, humanities, and business; many of these courses are applicable to the Global Studies major at WSU. Students have the option of attending for a semester, summer session, or a full academic year.

• South Korea: WSU has an exchange agreement with Soonchunhyang University in Asan, South Korea and a study abroad agreement with Chung Ang University in Seoul. Students with good academic standing can take courses in Korean language. They can also take a range of courses offered in English that correspond to WSU Global Studies courses, which may lead to dual degrees. A paid internship as an English ambassador is also available. Students have the option of attending for a semester or a full academic year.

• Spain: WSU has a study abroad agreement with the University of Granada's Modern Language Center located in Granada, Andalusia, Spain. Students with good academic standing can take courses at beginning, intermediate, and advanced levels of Spanish; they can also coordinate courses through the Global Studies program. Students have the option of attending for a semester, summer session, or a full academic year.

Early and careful planning for studying abroad is important to ensure that students can maximize the academic and cultural benefit of the experience. All WSU-sanctioned programs that are one semester or more carry 12-15 credits per semester. (Short-term study and tours carry fewer credits.) To obtain preliminary information about Study Abroad Program, students may contact the Student Answer Center in Kryzsko Commons (457-2456). For detailed information and application, go to the Study Abroad website.
TRAVEL STUDY PROGRAM
Outreach and Continuing Education Department (OCED)
Somsen Hall, Room 109 (507-457-5080)
www.winona.edu/oced/travel

The WSU Travel Study Program is designed to enrich students’ educational experience while broadening their intellectual, cultural, and social horizons. The program consists of credit-based coursework offered through various academic departments and taught by WSU faculty. The number of credits earned varies depending on the nature and extent of the learning experience provided. Courses typically last two to eight weeks and are taught in various countries around the world as well as in the United States. Travel study courses provide students the opportunity to engage in field research, service learning, and immersion into different communities and cultures. Courses are usually interdisciplinary and, therefore, provide students with an opportunity to integrate learning across several fields of knowledge.

Students and faculty interested in participating in or organizing a travel study course should contact the OCED office, which oversees the program and arranges the logistics for travel study offerings. The OCED office can provide additional enrollment information, a list of specific travel study opportunities, and answers to frequently asked questions.

STUDENT SERVICES

Connie Gores, Vice President for Student Life and Development
Kryzsko Commons, Room 129 (507-457-5300)
www.winona.edu/sld

The Division of Student Life and Development advances student learning and supports and enhances the educational mission of Winona State University. With an emphasis on holistic student development, faculty and staff within Student Life and Development (SLD) strive to assist students in achieving their potential and in becoming self-directed in all activities. Student Life and Development promotes and contributes to a University community centered on student learning and success. SLD is responsible for planning and administering an array of programs, services, and activities designed to accomplish the following:

- Encourage the optimal growth and personal development of students
- Contribute to student success and well-being
- Foster a sense of community
- Support an environment which is personal in nature, intellectually and culturally diverse, and which encourages the integration of in and out-of-classroom student experiences

SLD creates supportive environments and innovative opportunities for student learning. We promote individual student excellence; we invite collaboration and discovery; and we challenge students to take responsibility as members of a diverse, global community.

Dean of Students
Karen Johnson, Dean
Kryzsko Commons, Room 131 (507-457-5300)

The Dean of Students serves as a strong student advocate and provides leadership to the University community in maintaining a safe, inclusive, and affirming environment. The Dean manages and oversees the University’s conduct processes and provides leadership to the University in promoting and maintaining student rights and responsibilities.

SERVICES
Career Services
Maxwell Hall (507-457-5340)
www.winona.edu/career
Email: career@winona.edu

Career Services assists students seeking career direction, major selection, part-time employment on and off campus, work-study positions, summer opportunities, internships, and full-time employment. Individual advising appointments may be scheduled. Students are encouraged to register early to take full advantage of the broad range of services offered through Career Services. Alumni are also eligible to register for assistance in their search for full-time employment.

Career Services provides opportunities for students to interact with employers through career fairs, job fairs, and on-campus interviews. For students registered with Career Services, employers have access to their resumes directly through our website. Additionally, students can access job openings or update their resumes via the Internet 24 hours a day, seven days a week. Employment information and graduate follow-up results are available in the office as well as on our website. The Discover Career Guidance and Information System is also available through Career Services.

Career Services is open from 8:00 a.m. to 4:30 p.m. during the academic year and 7:30 a.m. to 4:00 p.m. during the summer.

Counseling Center
Wabasha Hall (507-457-5330)

The Counseling Center provides short-term counseling to currently enrolled students who are experiencing difficulty in their personal lives. Common concerns students may bring to the Counseling Center are anxiety, depression, adjustment issues, family problems, relationship concerns, academic concerns, self-esteem, grief, alcohol use/abuse, and so on. Counselors will also assist with off-campus referrals/resources if appropriate for the student’s care. In addition to personal counseling, the Counseling Center also offers career counseling, including the use of testing instruments such as the STRONG and DISCOVER programs. Outreach educational presentations are offered to both the WSU community and the community at large.

Four licensed, full-time counselors, one licensed social worker, a full-time office manager, and graduate student trainees staff the Counseling Center. During the academic year, students should stop by the Counseling Center between 8:00 a.m. and 4:30 p.m. to request an appointment.

Services are provided at no cost to the student. The information exchanged during the counseling process is confidential; students are advised of their client rights and the exceptions to confidentiality. Information will be released with the student’s written consent when appropriate.

Disability Resource Center
Maxwell Hall, Third Floor (507-457-2391; fax: 507-457-2957)
www.winona.edu/disabilityservices
Email: drc@winona.edu

In accordance with Section 504 of the federal Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Winona State University shall make reasonable adjustments in its policies, practices, services, and facilities to ensure equal opportunity for qualified persons with disabilities to participate in all educational programs and activities. A person with a disability is defined as:

- A person with a physical or mental impairment that substantially limits one or more major life activities. This includes care for oneself, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working.
- A person who has a disability, has a record of the disability, or is regarded as having the disability.
- A student requiring special accommodation or auxiliary aids must apply for such assistance through the Disability Resource Center. Proof of disability from a competent authority will be required, as well as information regarding specific limitations for which accommodation is requested. Reasonable accommodations are the services that are necessary to provide equal access in an academic setting. Examples of possible accommodations may include testing accommodations, note taking assistance, interpreter services, recorded lectures, assistive technology, writing/scribing assistance, lab assistance, adaptive equipment, priority registration, or alternative textbooks.

An eligible student is one who has a disability and who meets the essential academic eligibility requirements for the WSU program or activity in which the student seeks to participate. In order to receive academic accommodations, the student must identify/self-disclose his/her educational needs.

- Approval of accommodations is based on adequate supporting documentation of a disability.
• Qualified disabled students must meet the same academic requirements as all students on campus.

• An accommodation is not reasonable if it compromises the essential elements of a course or lowers academic standards.

• A request may be denied if it fundamentally alters a course or program or is an undue hardship for WSU.

• Some of the auxiliary aids may be provided by another agency such as Recordings for the Blind and Dyslexic and the National Library Service.

• Certain accommodations, such as course modifications or substitutions, may take up to one semester to be provided.

• The ADA Coordinator will respond to concerns about the inequality of access or opportunity.

More information is available in the Student or Faculty Disability Handbook, which is available in the Disability Resource Center or online at www.winona.edu/disabilityservices/handbooks/student/shandbook.html.

Health Insurance

All full-time students may purchase health insurance through the MnSCU Injury and Sickness Insurance Plan. For detailed information, contact one of the following offices: International Services (Kryzsko Commons, Room 130) or Student Health Service (Wabasha Hall). Information is also available at www.student-resources.net.

Inclusion and Diversity

Kryzsko Commons, Room 121 (507-457-5595)

It is the goal of Winona State University to create a learning community where its members feel safe and respected regardless of cultural background and where opportunities are provided to explore, understand, and appreciate one another’s cultural experiences and heritage. Going beyond this, it is the goal of this institution to develop a learning community where diversity in its broadest terms—includes race, ethnicity, national origin, gender, ability/disability, age, religion, economic, language, gender identity, and sexual identity—is valued, affirmed, and celebrated as an important first step toward embracing world differences in order to make the world a better place in which to live and work.

Winona State University is committed to cultural diversity and supports the following initiatives as part of its mission:

• Promote understanding of the cultural and ethnic heritages of African Americans, Asian Americans, Latino/Hispanic Americans, and Native Americans as well as other diverse cultures at WSU.

• Increase enrollment, retention, and success of historically underrepresented and under-served students (i.e., racially diverse students, first-generation college students, students for whom English is a second language, and low-income students).

• Enhance curriculum development through the inclusion of multicultural perspectives.

• Provide resources for multicultural campus and community initiatives.

• Promote the understanding and appreciation of issues related to race, ethnicity, national origin, gender, age, beliefs, ability levels, economic status, sexual identity, gender identity, and religion.

• Create a safe, welcoming, and nurturing environment that encourages all campus members—student and employee alike—to grow and achieve their goals.

In the spirit of broadening horizons and enabling campus and community members to appreciate different cultures and ethnicities, the ultimate aim of Winona State University’s commitment to cultural diversity is to empower people of all backgrounds for successful living in a global society.

Integrated Media Services (Information Technology Services)

Howell Hall, Room B3 (507-457-5110)
www.winona.edu/uits/mediaservices

Integrated Media Services provides real-time technology support required in the classroom to enhance the learning environment. Classroom support provides the “real-time” services needed to ensure that technology does not become a burden to the educational process. Additional services include equipment checkout, event support, audio/video duplication, video editing stations, and technical support and training.

International Services and Cultural Outreach

Kryzsko Commons, Room 128 (507-457-5303; fax 507-457-2474) www.winona.edu/internationaloffice
Email: intrec@winona.edu

The Office of International Services and Cultural Outreach welcomes international students and provides assistance to all international students attending Winona State University. Information and advice is available regarding admission to the University, scholarships, immigration concerns and employment regulations regarding F-1 visa holders, friendship family program, orientation, insurance requirements, and other information related to the well-being of international students.

A limited number of English language courses are available for non-native speakers who are admitted to the University. Students are assigned to these courses on the basis of their scores on the WSU English Test for Non-Native Speakers. This test must be taken prior to registration and prior to registration for the initial term of attendance at WSU.

See page 6 for admissions requirements and considerations. Students who initiate their attendance for fall semester will be billed during the fall for the entire year.

The University requires that international students meet with a staff member of the Office of International Services immediately after arrival to the University. At that time, students will receive detailed information on the required orientation (OASIS) held the week prior to the beginning of classes.

Maxwell Children’s Center

On-Campus Site: Wabasha Hall, 101 E Wabasha St.
Off-Campus Site: Madison Elementary School, 515 W. Wabasha St. (507-457-2300) www.winona.edu/catalog/childcare.htm

The Maxwell Children’s Center, which is part of the College of Education, provides:

• Full-service, affordable, educational, and inclusive child care for all children.

• An interactive classroom setting for University students seeking a variety of Minnesota teaching licensures. Students participate in practicum/field placements, student teaching, and employment opportunities.

• A model program for regional early childhood professionals.

The Children’s Center serves children aged six weeks to 12 years and is open-year round Monday through Friday from 7:00 a.m. to 5:30 p.m., excluding University holidays and part of each semester break. Children may be enrolled as either part-time or full-time participants. Additionally, children aged 3-5 may be enrolled as morning preschool participants. Children aged 6-11 may participate in after-school or full-day summer enrichment programs.

WSU students who have children are strongly urged to contact the Children’s Center as soon as they are admitted to WSU due to high demand for the center’s services.

Maxwell One-Stop Center

The Maxwell One-Stop Center, located on the west side of the newly remodeled Maxwell Hall, is a new student service center. By incorporating the functions of seven departments—Admissions, Advising and Retention, Career Services, Financial Aid, Parking, Registrar, and Student Accounts, the center provides students with more integrated and efficient services.

The heart of the Maxwell One-Stop Center is the second floor “hub” where staff who are trained as generalists assist students with many needs at once and often all, of their enrollment service needs. When necessary, these generalists link students with specialists from the various areas who work one-on-one with students to address specific needs. Many of these specialists are located directly behind the hub. The Office of Admissions is on the first floor; resources such as advising, career services, and services for students with disabilities are located on the third floor.

The Maxwell One-Stop Center provides personalized, student-centered services that provide efficiencies by using existing technologies and allowing for quality face-to-face interactions between students and staff dedicated to student learning.

Parking Services

Maxwell Hall, (507-457-5062)
www.winona.edu/parking
Email: parking@winona.edu

Parking permits are required in all University parking lots on the Winona campuses. The requirement for permits includes all students who have state-issued handicapped permits. The only exceptions are the metered spaces on the main campus.

The application process for parking permits starts April 1 to be effective the next school year. If applications exceed the number of available parking spaces, a drawing is held. Once space becomes available after the drawing, permits are sold on a first-come, first-served basis. If no permits are available, applicants’ names are put on a waiting list. For more details and information about the cost of parking permits on the Winona campuses, contact Parking Services.
Security Services
Sheehan Residence Hall, Main Floor (507-457-5555)
www.winona.edu/security
WSU Security is responsible for the physical security of all residence halls and academic buildings throughout the University. Campus security employs three full-time security personnel with over 75 years of combined law enforcement experience. In addition, the security force is supplemented with approximately 50 students who perform security-related duties on campus. The Winona Police Department also patrols and responds to calls on campus 24 hours a day throughout the year.

Security works to ensure the safety of students, staff, faculty, and University property. Crime prevention, proactive safety programs, and training are integral parts of Winona State University Security; our goal is to maintain a safe environment for everyone. See page 34 for information about crime awareness and the Campus Security Report.

Student Answer Center (SAC)
Kryzsko Commons, Lower Level (507-457-2456)
www.winona.edu/sac
Email: SAC@winona.edu
The Student Answer Center (SAC) is a one-stop resource for students, prospective students, families, and community members seeking information about WSU and the Winona area. The SAC is also the satellite site for the Maxwell One-Stop Center, which supports students with information on admissions, financial aid, registration, advising, career and employment, housing, parking, library services, and more. “ASK WSU” is coordinated through the staff at the SAC.

If students have questions prior to, during, or after their time at WSU, the SAC is here for them. Frequently asked questions can be accessed through the “ASK WSU” icon on the website. Routine inquiries can be handled by the SAC, making it a convenient WSU resource. The SAC’s hours of operation have been expanded; check the website for current hours.

Student Health Service
Wabasha Hall, 201 E. Wabasha Street (507-457-5160)
www.winona.edu/healthservices
The Health Service facility is staffed by physicians, nurse practitioners, registered and practical nurses, a medical technologist, a health educator, and a medical records clerk. Services include:
- Medical examinations and consultations for illness, injury, and other medical concerns
- Laboratory services
- Mantoux tests and other immunizations
- Physical exams for sports, employment, or travel
- Allergy injections (students must supply their own serum)
- Contraceptive counseling and prescriptions
- Health education materials including pamphlets, videos and consultation, which enable students to develop a lifestyle that will reduce their risk of disease and injury
- Smoking cessation program
- Alcohol education class
- Campus-wide and community health promotion, prevention, and awareness programs
- A Peer Health Educator program

The student health fee pays for most of the services provided during regular office hours. However, there is a $5.00 office visit fee to see the physician or nurse practitioner. In addition, there are charges for medications, laboratory tests, and some medical procedures and supplies.

Information about costs and charges is available on the health service website. Emergency care is available evenings and weekends at Community Memorial Hospital (855 Mankato Avenue, Winona).

Pre-Enrollment Medical Examination
Each student must complete a Report of Medical History form and submit it to the Student Health Service. All new students get the form at registration, or the health service mails it upon request. The form can be completed without a physical exam or a physician’s signature. However, the University recommends that a physical exam be done.

Notes:
1. For students who are planning to participate in athletics, a physical exam is mandatory and must be completed after July 1. A special form is available from the Department of Athletics.
2. Health records for transfer students are not sent automatically with transcripts from other colleges; transfer students must specifically request the records. Students must complete the Report of Medical History for the WSU Student Health Service.

Proof of Immunization
Minnesota Law (M.S. 135A.14) requires that all students enrolled in a public or private post-secondary school in Minnesota be immunized against diphtheria, tetanus, measles, mumps and rubella—allowing only for certain specified exemptions. Records must be on file with the Student Health Service. The law also requires that all students, in order to remain enrolled, must submit their immunization information to the Student Health Service within 45 days of the beginning of the semester. The immunization form is on the back of the Report of Medical History form. Forms are available in the Student Health Service office.

STUDENT UNION/ACTIVITIES
The hub of student activities is the Student Center in Kryzsko Commons. This facility encompasses places to eat, study, meet, or just hang out. The Jack Kane Dining Center is located on the upper level. Conference rooms and/or private dining areas are available to students for meetings and informal gatherings. The Student Activity Center is located on the main level and includes student lounges, conference rooms, a club activity room, Student Senate offices, Greek organization offices, a stage, dance floor, and numerous PC hook-ups. The Smaug dining center is also on the main level. This center includes dining choices such as Tuscan Oven, Sub Generation, and The Grille; these venues serve everything from burgers and wraps to Mexican cuisine to a variety of other cuisines. The Wharf (located adjacent to The Smaug) is a convenience store where students can get a made-to-order smoothie, ice cream, coffee, soft drinks, and many other items. The WSU Bookstore, located in the lower level, stocks WSU apparel, class books, and school supplies.

The Student Union/Activities Director and Assistant Activities Director advise and work with student committees to coordinate social, cultural, and recreational programs. Activities include movies, dances, guest speakers, concerts, river excursions, banquets, art exhibits, and other special events.

More than 190 student clubs and organizations are represented; they encompass a wide variety of interests. These clubs showcase academic, athletic, cultural, political, religious, and social interests. Each organization provides service activities to benefit its members, the campus, and the community. The Alliance of Student Organizations Committee (ASO) is the central organization to which all University clubs belong.
Student Clubs and Organizations

**Note:** The list of student organizations may be updated after this catalog is printed; the most up-to-date list will be available at www.winona.edu/studentunion/

**Academic Clubs**
- Accounting Association
- American Advertising Federation
- American Chemical Society
- American Marketing Association
- American Sign Language
- Art Club
- Association of Student Paralegals
- Athletic Training Club
- Biology Club
- Chemistry Club
- Communication Club (majors/minors in Communication Studies)
- Computer Science Club
- Criminal Justice Club
- Education Minnesota Student Program
- Environmental Club
- Exercise Science Club
- Financial Management Association
- Geology Club
- Grub Street (English club)
- Health Organization for Promotion & Education
- Health and Wellness Association
- History Association
- International Association of Business Communicators
- Journalism/Photojournalism Club
- Learning Disabilities Association (Council for Exceptional Children)
- Management Information Systems Association
- Macintosh Users Group
- Mass Communication Club
- Mathematics/Statistics Club
- Minnesota Student Nurses Association
- Music Business Club
- Music Educators National Conference
- Nursing Club
- Peace Office Student Training Association
- Performance Engineering Club
- Physics Club
- Political Science Association
- Pre-Pharmacy Club
- Professional Educators of Physical Activity
- Psi Chi Honor Society (psychology club)
- Science Education Club
- SHAPE (Spreading Health Awareness/Peer Education)
- Society for the Advancement of Material Process Engineering
- Society for Collegiate Journalists
- Society for Human Resources Management
- Society of Plastic Engineers
- Student Association of Social Workers
- Student MN Education Association
- Sociology Club
- Synergy (Professional Business Association)
- Therapeutic Recreation (recreation club)

**Athletic Clubs**
- Bowling Team
- Bocce Ball Club
- Cheer Team
- Dance Team
- Fencing Club
- Karate Club
- Outdoor Club
- Rugby Team (men)
- Rugby Team (women)
- Running Club
- Rowing Club
- Snowboard Club
- Soccer/Futbol Club
- Tri-Club (Triathlons)
- Ultimate Frisbee—The Experience (men)
- Ultimate Frisbee—Bad Monax (women)
- Veterans Club
- Volleyball Club (men)
- Water Ski & Wakeboard Team

**Athletic NCAA Intercollegiate Teams**

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<th>Men</th>
<th>Women</th>
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<td>Baseball</td>
<td>Cross Country</td>
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<td>Basketball</td>
<td>Golf</td>
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<tr>
<td>Cross Country</td>
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<td>Track &amp; Field</td>
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<td>Volleyball</td>
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**Campus Organizations**
- Alliance of Student Organizations (ASO)
- Ambassadors
- Grievance Board
- Homecoming Committee
- Judicial Board
- National Residence Hall Honorary
- Residence Housing Association (RHA)
- Student Senate
- Student Support Organization for MSUSA
- University Programming Activities Committee (UPAC)

**Communications**
- KQAL FM Radio (college radio station)
- Satori (literary publication)
- Braviura (lab newspaper)
- Winonan (student newspaper)
- National Broadcast Society

**Cultural Clubs**
- African Club
- Asian American Club
- Association for Disability Awareness
- Black Cultural Awareness Association
- GLBTA (Gay, Lesbian, Bi, Trans, Allies Partnership)
- Hispanic Association of Students
- Hmong American Student Association
- Intercambios
- International Club
- Japan Club
- Malaysian–American Chapter
- Native American Heritage and Awareness
- Soka Gakkai International
- SOUL
- United Nations Club

**Fine Arts Clubs**
- Brass Ensemble
- Chamber Choir
- Choral Union
- Concert Band
- Concert Choir
- Dance Society
- Forensics
- Jazz Club
- Opera Workshop
- Percussion Ensemble
- Symphonic Wing Ensemble
- Symphony Orchestra
- University String Quartet
- Wenonah Players (theatre)
- Woodwind Ensemble
- Woodwind Quintet

**Greek Life**
- Delta Phi Epsilon Sorority
- Phi Theta Chi Sorority
- Pi Lambda Phi Fraternity
- Pi Lambda Phi Fraternity
- Sigma Sigma Sigma Sorority
- Tau Kappa Epsilon Fraternity
- Inter-Greek Council
- Panhellenic Association

**Honorary Societies**
- Alpha Delta Mu (social work)
- Alpha Epsilon Rho (broadcasting)
- Alpha Lambda Delta (freshman/sophomore honors)
- Alpha Omega Honore
- Beta Beta Beta (Tri Beta Biological Society)
- Delta Sigma Pi (business)
- Golden Key International (junior/senior honors)
- Kappa Delta Pi
Lambda Pi Eta
National Society of Collegiate Scholars
Sigma Theta Tau (nursing)

**Intramurals**
- Aerobics
- Badminton
- Basketball
- Floor Hockey
- Soccer
- Tennis
- Water Aerobics
- Weight Training

**Religious Clubs**
- Christians in Action - Chi Alpha
- Catholic Newman Center
- Fellowship of Christian Athletes
- Intervarsity Christian Fellowship
- Latter Day Saints Student Association
- Lutheran Campus Center
- Lutheran Student Fellowship
- Muslim Student Association
- True North WELS Campus Ministry
- United Campus Ministries

**Special Interest Clubs**
- Amnesty International
- Anime Club
- Card Club
- Circle K (College Kiwanis)
- Colleges against Cancer
- FORGE (Fighting for Our Rights & Gender Equality)
- Game Development Club
- Habitat for Humanity
- Rod and Gun Club
- RPSIG (Role Playing Special Interest Group)
- Strategy Gaming Club
- Up 'Til Dawn
- Warriors for Life
- WSU College Democrats
- WSU College Libertarians
- WSU College Republicans
- WSU Greens
- WSU NORML
- Video Game Club

**POLICIES AND REGULATIONS**

**Affirmative Action Office**
Somsen Hall, Room 204
(507-457-5013)

The Affirmative Action Officer provides information and investigates complaints of discrimination or harassment based upon race, sex, color, creed, religion, age, national origin, marital status, disability, status with regard to public assistance, sexual orientation, or membership or activity in a local commission as defined by law. The Affirmative Action Officer also investigates concerns regarding sexual harassment at WSU. These confidential services are available by appointment or on a walk-in basis. Call the Affirmative Action office for more information or to make an appointment.

**Crime Awareness and Campus Security Act**
WSU Security Services
Sheehan Hall, (507-457-5555)
www.winona.edu/security/crime_report_wsu.html

Winona State University recognizes that providing the safest environment possible is an integral element of the University's educational mission, and the University publishes an annual Campus Security Report that is available to everyone. This report provides statements of policy for a broad range of safety, community relations, environmental safety, enforcement authority, and response issues. It also includes a three-year statistical review of designated crimes on campus. A printed copy of this report may be obtained, at no charge, from the Director of Security, Winona State University (Sheehan Hall), Winona, MN 55987 or by calling 507-457-5555.

In addition, the Campus Security Report can be accessed at the following websites:
- Winona Campus:
- Rochester Campus:

Winona State University encourages all members of the University community to be fully aware of the campus safety issues and to take action to prevent and report illegal and inappropriate activities. Personal awareness and applying personal safety practices are the foundation of a safe community. The Campus Security Report is designed to inform and educate you on the measures that can be taken and the services available to you to assist in maintaining a safe and secure learning environment. All members of the University community are encouraged to contact the Director of Security at dwalski@winona.edu or by phone (507-457-5555) with any concerns and questions regarding campus security and related issues.

**Student Conduct**
Office of Student Life and Development
Kryzsko Commons, Room 130 (507-457-5300)

The WSU Student Conduct Policy and related policies, which express expectations concerning behavior and state the rights of students, are available online at www.winona.edu/sld or www.winona.edu/handbook (online Student Handbook) or in the Office of Student Life and Development. Students are responsible for being aware of and complying with all WSU student policies and regulations.

The purpose of the judicial system at WSU is (1) to provide an educational experience through which students learn to understand, accept, and promote attitudes and behavior conducive to responsible citizenship; (2) to provide a system by which students are held accountable for actions that violate University proscribed behaviors listed in the Student Conduct Policy; and (3) to protect the due process rights of students charged with violating these behaviors.

At the discretion of the University, students may be held accountable for behavior—both on and off campus—that constitutes a violation of local, state, and federal laws. Note that the WSU Student Conduct Policy does not replace or reduce the requirements of civil or criminal laws. If assistance with a complaint or additional information is needed, contact the Office of Student Life and Development.
The undergraduate degree. For information about graduate admissions, consult the program. The student must provide proof that he or she has earned an undergraduate degree as a "Graduate Special" student without applying to a graduate program. While students applying for graduate degree programs must apply through the Graduate School office, it is possible to enroll in graduate courses as a "Graduate Special" student without applying to a graduate program. Students seeking a non-Credit Programs

WSU-Rochester provides upper-division courses for the completion of a number of WSU baccalaureate degrees. Entering students may transfer credits from other institutions through individual transcript evaluation or official 2+2 program agreements with RCTC. Through the 2+2 Program, students can complete 12 baccalaureate degree programs by transferring lower-division credits from RCTC and completing upper-level courses at WSU-Rochester. Students at WSU-Rochester can also complete numerous undergraduate minors and five graduate degrees within 16 different graduate programs at the Master's Specialist, and Doctoral levels.

See page 37 for detailed descriptions of the undergraduate programs; for more information about the graduate programs, see the WSU Graduate Catalog.

Non-Credit Programs

WSU-Rochester cooperates with community and professional groups and WSU's Outreach and Continuing Education Department to provide non-credit continuing education programs for educators, business and industry, agencies, and government.

Adult Entry Program

This program is designed for mature students who have never attended college or who are returning to college. Counselors are available in Rochester on a regular basis to assist adult students seeking a college education. Under this program, college credit may be awarded for life/work experience. (See "Outreach and Continuing Education Department" on page 29 for more information.)

ADMISSION AND REGISTRATION

Students who are not seeking a degree can enroll in WSU-Rochester classes without being formally admitted to the University; however, they must apply through the Provisional Admission process. Students seeking a degree must apply for admission to the University. Some degree programs also require an additional admission process. For general information about undergraduate admissions, see page 5. For general information about registration and academic records, see page 15.

While students applying for graduate degree programs must apply through the Graduate School office, it is possible to enroll in graduate courses as a "Graduate Special" student without applying to a graduate program. The student must provide proof that he or she has earned an undergraduate degree. For information about graduate admissions, consult the WSU Graduate Catalog.

STUDENT SERVICES

Campus Visits

Students are encouraged to visit the WSU-Rochester campus any time. For more information about programs and services, call 800-366-5418 or 507-285-7100.

Career Services

Rochester Campus: SS 125 (507-280-5079)
Winona Campus: Maxwell Hall (507-457-5340)
www.winona.edu/career
Email: RochesterCareer@winona.edu

Career Services assists undergraduate and graduate students seeking career direction, part-time work on and off campus, work-study positions, summer opportunities, internships, and full-time employment. Alumni are also eligible for assistance in their search for full-time employment. Students are encouraged to register early to take full advantage of the broad range of services offered through Career Services.

Students may schedule individual advising appointments to discuss career direction and questions related to the job search, to critique resumes and cover letters, and to obtain tips on interviewing. They may also schedule appointments for mock interviews on the Career Services virtual interview kiosk.

Career Services provides opportunities for students to interact with employers through career fairs, job fairs, and on-campus interviews. Once students register with Career Services, employers have access to their resumes directly through our website. Additionally, students can access job openings or update their resumes via the Internet 24 hours a day, seven days a week. Employment information, graduate follow-up results, and additional resources are available in the office as well as our website.

The Career Services office is open from 8:00 a.m. to 4:30 p.m. during the academic year and from 7:30 a.m. to 4:00 p.m. during the summer. Evening and weekend hours are available by appointment.

Computer Facilities

WSU-Rochester is equipped with state-of-the-art technology for interactive television (ITV) and computer systems that link UCR students with the Winona campuses and the world. The computer facilities consist of multiple smart rooms, one open computer lab, and a laptop rental center. All labs allow students access to mainframes on the Winona campus.

Counseling

Academic counseling services are available through WSU-Rochester (507-285-7100). Staff members are professional counselors with extensive academic experience in counseling.

Financial Aid

Students must apply for financial aid online through the FAFSA website: www.fafsa.gov. Representatives from the WSU Financial Aid Office are available on the WSU-Rochester campus each week. Interested students should call to arrange an appointment with a financial aid advisor (507-285-7100).

Housing and Dining

The University Center at Rochester (UCR) is a commuter campus. However, a variety of housing options are available in the Rochester area, including furnished and unfurnished apartments, efficiencies, single room rentals, and houses. RCTC has a listing of housing information available for students. In addition, Professional Property Management, an independent local agency, provides housing information for UCR students. Students may obtain housing information from both of these sources at the UCR Information Desk or on the WSU-Rochester website, www.winona.edu/rochester.

The UCR cafeteria is located on the third floor of the College Center. In addition to the cafeteria, the Cafe Express offers light meals and snacks during the early evening hours. Students may also use the microwaves located in the cafeteria as well as food and beverage vending machines located throughout the campus complex.

International Students

Staff members from the Office of International Services are available on the WSU-Rochester campus. Students may schedule appointments or request information by calling the Office of International Services on the Winona campus (507-457-5303).

Office of the Director
U.S. Highway 14 and 30th Avenue SE
Rochester, MN
SS131 UCR (507-285-7100)
www.winona.edu/rochester

WSU-ROCHESTER

PROGRAM OVERVIEW

Since 1917, Winona State University has served students in Rochester, Minnesota and the surrounding area. In 1993, Winona State University, along with the University of Minnesota and Rochester Community and Technical College (RCTC), collaborated to create the University Center at Rochester (UCR). The Greater Rochester area served by the UCR has a population of over 100,000 people; area residents have a high level of education attainment, and they are highly receptive to the lifelong learning opportunities offered by WSU-Rochester and the other institutions.

Its location in the growing city of Rochester provides WSU-Rochester with unique opportunities to offer specialized classes and programs aimed at key industries in the area, including computer science, the health care professions, business, and education. WSU-Rochester’s strong “commitment to community” is evident as students, faculty, and staff from a variety of programs engage in experiential community-based learning in area organizations, businesses, and schools.

WSU-Rochester has served the region with distinction, and the numbers tell the story. Over 2,000 students are served each year through day, evening, and weekend classes. Over 5,000 bachelor’s and master’s degree candidates have graduated from programs offered at the WSU-Rochester campus. Approximately 40 resident faculty serve WSU-Rochester; in addition, 20 faculty from the Winona campus are dedicated to the Rochester campus. A number of adjunct faculty professionals from area industries also serve students.

DEGREES AND PROGRAMS

WSU-Rochester provides upper-division courses for the completion of a number of WSU baccalaureate degrees. Entering students may transfer credits from other institutions through individual transcript evaluation or official 2+2 program agreements with RCTC. Through the 2+2 Program, students can complete 12 baccalaureate degree programs by transferring lower-division credits from RCTC and completing upper-level courses at WSU-Rochester. Students at WSU-Rochester can also complete numerous undergraduate minors and five graduate degrees within 16 different graduate programs at the Master's Specialist, and Doctoral levels.

See page 37 for detailed descriptions of the undergraduate programs; for more information about the graduate programs, see the WSU Graduate Catalog.

Non-Credit Programs

WSU-Rochester cooperates with community and professional groups and WSU's Outreach and Continuing Education Department to provide non-credit continuing education programs for educators, business and industry, agencies, and government.

Adult Entry Program

This program is designed for mature students who have never attended college or who are returning to college. Counselors are available in Rochester on a regular basis to assist adult students seeking a college education. Under this program, college credit may be awarded for life/work experience. (See “Outreach and Continuing Education Department” on page 29 for more information.)

ADMISSION AND REGISTRATION

Students who are not seeking a degree can enroll in WSU-Rochester classes without being formally admitted to the University; however, they must apply through the Provisional Admission process. Students seeking a degree must apply for admission to the University. Some degree programs also require an additional admission process. For general information about undergraduate admissions, see page 5. For general information about registration and academic records, see page 15.

While students applying for graduate degree programs must apply through the Graduate School office, it is possible to enroll in graduate courses as a “Graduate Special” student without applying to a graduate program. The student must provide proof that he or she has earned an undergraduate degree. For information about graduate admissions, consult the WSU Graduate Catalog.
Disability Services
Services and accommodations for students with special needs are available by request. Students may schedule appointments or request information by contacting the WSU Disability Resources Center on the Winona campus (507-457-2391; drc@winona.edu).

Child Care
Child care for WSU-Rochester students is available on the UCR campus. Students may request information by contacting the UCR Child Care Center (507-285-7232).

Library
WSU-Rochester students have access to the UCR Goddard Library in Rochester and the Darrell W. Krueger Library on the Winona campus. WSU-Rochester's library holdings are integrated into UCR's Goddard Library holdings of over 57,000 volumes. This arrangement provides students with an extensive resource of reference and research material on the WSU-Rochester campus. In addition, students may request overnight courier service to the Winona campus library for articles and books; they may also do online searches using MnPALS and a number of other systems.

Parking Services
Students will be charged a $4.00 parking fee per credit with a maximum parking fee of $60 per semester (subject to change). This fee will automatically be added to a student's semester billing for tuition and fees. No parking permit will be issued; student lots are designated.

Student Disclosure Policy
Educational records of students taking classes at the UCR campus may be made available to employees of WSU and RCTC while the student is attending the UCR campus if access to a student record is required in order to provide services to the student.

UNDERGRADUATE PROGRAMS

| 2+2 Accounting |
| 2+2 Business Administration |
| 2+2 Computer Information Systems |
| 2+2 Computer Science |
| 2+2 Computer Science - Bioinformatics |
| 2+2 Elementary Education: K-6 with Middle Level Communication Arts and Literature 5-8 Specialty |
| 2+2 Elementary Education: K-6 with Middle Level Social Studies 5-8 Specialty |
| 2+2 Nursing: Generic Option |
| 2+2 Psychology, Option A |
| 2+2 Social Work |
| Nursing: RN-to-BS Option |
| Professional Studies (General Option) (See page 37 for program description.) |

GRADUATE PROGRAMS

Doctor of Nursing Practice (DNP)
Specialist Degree in Educational Leadership (Ed.S.)

Master of Science in Counselor Education:
• Community Counseling
• Professional Development
• School Counseling

Master of Science in Education:
• Graduate Induction Program
• Master Teacher Learning Communities
• Traditional Master of Education Program

Master of Science in Educational Leadership:
• General Leadership
• K-12 Principalship
• Teacher Leadership
• Outdoor Recreation/Adventure Based Leadership
• Sports Management

Master of Science in Nursing:
• Adult/Family Nurse Practitioner
• Clinical Nurse Specialist
• Nurse Administrator
• Nurse Educator

Collaborative Master's Program with University of Minnesota with emphasis in Public/Psych/Mental Health Nursing

Post-nursing Master's certificates available in Adult/Family Nurse Practitioner, Nurse Educator, and Clinical Nurse Specialist focus areas

Post-Baccalaureate Secondary Licensure Program/Teacher Licensure Collaborative (TLC)

Licensure programs for pK-12 Principal and Superintendent

Post-Baccalaureate secondary teacher licensure program

Certificate in Outdoor Recreation/Adventure Based Leadership (post-Master's degree)

Certificate program in Sports Management (post-Master's degree)
B.S. MAJOR - NURSING:
RN-TO-BS OPTION (NURN)
54 S.H. (Required courses must be taken for a letter grade.)
Note: Includes 24 S.H. of nursing in transfer or exam.

REQUIRED COURSES – NURS

First two years:
Nursing Research, Theory and Technology (3)
Holistic Caring (5)
Holistic Assessment (4)
Management and Leadership (3)
Continuity of Care (4)
Nursing Roles and Health Promotion (4)
Community Health Nursing (4)
Capstone Experience in Role Synthesis (3)

Second two years:
Upper-division nursing courses that can be completed in one to two years after all other degree requirements are completed.
The RN-to-BS Option can be completed on a full-time or part-time basis at the Rochester campus.
The Department of Nursing also offers an adapted RN-to-BS Professional Pathway for registered nurses whose goal is to earn a master's degree in nursing.

Electives
Electives may be taken as letter grade or pass/no credit if the courses are offered on a P/N/C basis. See page 166 for more information on the RN-to-BS Option.

2+2 PROGRAMS
Note: Program requirements for the 2+2 Programs are subject to change. Students should check www.winona.edu/rochester for the most up-to-date program descriptions.

2+2 ACCOUNTING
Rochester Community and Technical College (RCTC) & Winona State University (WSU)
First two years: Associate in Science (A.S.) degree in Liberal Arts & Studies at RCTC
Second two years: Bachelor of Science (B.S.) degree in Accounting at WSU

I. General Education Requirements ................................. 40 Credits
Courses must be selected from those approved to satisfy the competencies of the Minnesota Transfer Curriculum (MNTC) Goals 1-10. Consult the RCTC catalog listings to determine which courses satisfy the areas listed below.

Goal 1: Written and Oral Communication ........................................ 11 Credits
ENGL 1117, 1118 Reading & Writing Critically I & II .... 8 Credits
SPCH 1114 Fundamentals of Speech ........................................ 3 Credits

Goal 2: Critical Thinking - Met by any course in MNTC goals 1-10

Goal 3: Natural Science .................................................. 6 Credits
Choose two courses with labs from two different areas: biology, chemistry, earth science, or physics.

Goal 4: Mathematics ..................................................... 3-5 Credits‡
MATH 1119 Applied Calculus for Business Majors OR .... 3 Credits
MATH 1127 Calculus I ...................................................... 5 Credits

Goal 5: History and Social Sciences ...................................... 11 Credits
ECON 2214 Principles of Microeconomics ......................... 4 Credits
ECON 2215 Principles of Macroeconomics ......................... 4 Credits
3 credits from anthropology†, geography†, history†
political science, psychology†, or sociology† ................. 3 Credits

Goal 6: Humanities and Fine Arts ......................................... 9 Credits
Choose from three different areas: art, English literature, foreign culture, humanities†, journalism, music, philosophy†, speech theatre.
† Honors equivalent available.

II. Health and Human Performance ...................................... 2 Credits
Any combination of health and/or physical education activity courses 1100-1199. One credit may be from varsity athletics
PHED 1210-1236, 2210-2236.

III. Business Core Requirements ........................................... 21 Credits
ACCT 2217 Financial Accounting ........................................ 4 Credits
ACCT 2218 Managerial Accounting ..................................... 4 Credits
BUS 2212 Business & Economic Statistics ......................... 4 Credits
BUS 2227 Business Law I .............................................. 3 Credits
ACCT 2234 Computerized Accounting ................................ 3 Credits
BUS 2201 Principles of Marketing ..................................... 3 Credits

Total Credits........................................................................ 64 Credits
If a student takes only 3 credits of mathematics, 1 additional credit will be required to complete the A.S. degree.

Note: The award of the A.S. degree waives WSU University Studies requirements except for the Flag requirements (page 19).

MAJOR REQUIREMENTS AT WSU:
Accounting ................................................................. 21 Credits
ACCT 311 Intermediate Accounting I ............................. 3 Credits
ACCT 312 Intermediate Accounting II ............................. 3 Credits
ACCT 330 Accounting Information Systems ..................... 3 Credits
ACCT 361 Intermediate Managerial/Cost Accounting ........ 3 Credits
ACCT 413 Advanced Financial Accounting ....................... 3 Credits
ACCT 421 Introduction to Taxation ................................... 3 Credits
ACCT 471 Auditing I .................................................... 3 Credits
Business Administration .................................................. 18 Credits
BUSA 311 Business Law II .............................................. 3 Credits
BUSA 320 Intermediate Business Statistics ....................... 3 Credits
MGMT 325 Organizational Dynamics .................................. 3 Credits
MGMT 495 Strategic Management ..................................... 3 Credits
MIS 362 Management Information Systems ...................... 3 Credits
OM 334 Production and Operation Management .............. 3 Credits
Economics/Finance ..................................................... 3 Credits
FIN 360 Corporate Finance ............................................ 3 Credits

Major Electives ................................................................ 9 Credits
Any 300-400 ECON elective ........................................ 3 Credits
300-400 ACCT electives ............................................... 6 Credits

Open Electives ................................................................ 13 Credits
Note: Thirty-four non-business credits are required for the major. Of the math, statistics, and economics courses required for the major, 6 credits of math and statistics and 9 credits of economics can be counted toward the requirement for 64 non-business credits.

Total Credits................................................................. 64 Credits
Required for a B.S. Degree in Accounting ....................... 128 Credits

2+2 BUSINESS ADMINISTRATION
Rochester Community and Technical College (RCTC) & Winona State University (WSU)
First two years: Associate in Science (A.S.) degree in Business Administration at RCTC
Second two years: Bachelor of Science (B.S.) degree in Business Administration at WSU

I. General Education Requirements .................................. 40 Credits
Courses must be selected from those approved to satisfy the competencies of the Minnesota Transfer Curriculum (MNTC) Goals 1-10. Consult the RCTC catalog listings to determine which courses satisfy the areas listed below.

Goal 1: Written and Oral Communication ........................................ 11 Credits
ENGL 1117, 1118 Reading & Writing Critically I & II .... 8 Credits
SPCH 1114 Fundamentals of Speech ........................................ 3 Credits

Goal 2: Critical Thinking - Met by any course in MNTC goals 1-10

Goal 3: Natural Science .................................................. 6 Credits
Choose two courses with labs from two different areas: biology, chemistry, earth science, or physics.

Goal 4: Mathematics ..................................................... 3-7 Credits‡
MATH 1113 Finite Math with College Algebra OR ............ 3 Credits
MATH 1113 Finite Math with College Algebra OR higher ....... 3 Credits

Goal 5: History and Social Sciences ...................................... 11 Credits
ECON 2214 Principles of Microeconomics ......................... 4 Credits
ECON 2215 Principles of Macroeconomics ......................... 4 Credits
3 credits from anthropology†, geography†, history†
political science, psychology†, or sociology† ................. 3 Credits

Goal 6: Humanities and Fine Arts ......................................... 9 Credits
Choose from three different areas: art, English literature, foreign culture, humanities†, journalism, music, philosophy†, speech/theatre.
† Honors equivalent available.

II. Health and Human Performance.................................2 Credits
Any combination of health and/or physical education activity courses 1100-1199. One credit may be from varsity athletics 1210-1236.

III. Business Core Requirements .........................................21 Credits
ACCT 2217 Financial Accounting.................................4 Credits
ACCT 2218 Managerial Accounting.............................4 Credits
BUS 2212 Business & Economic Statistics....................4 Credits
BUS 2227 Business Law I...........................................3 Credits
BITEC 2350 Microcomputer Business Applications ........3 Credits
BITEC 2364 Principles of Marketing............................3 Credits
IV. Elective Credits.........................................................1 Credit
Total Credits..................................................................64 Credits

Note: The award of the A.S. degree waives WSU University Studies requirements except for the Flag requirements (page 19).

MAJOR REQUIREMENTS AT WSU:

Business Administration................................................18 Credits
BUSA 311 Business Law II...........................................3 Credits
BUSA 320 Intermediate Business Statistics......................3 Credits
MGMT 315 Principles of Management OR ..........................3 Credits
MGMT 455 International Business..................................3 Credits
MGMT 317 Management of Human Resources.................3 Credits
MGMT 325 Organizational Dynamics..............................3 Credits
Management of Information Systems & Operations ...........6 Credits
MIS 362 Management Information Systems.......................3 Credits
OM 334 Production and Operation Management..............3 Credits
Economics and Finance...............................................3 Credits
FIN 360 Corporate Finance...........................................3 Credits

Major Electives – Must be 300+ level electives .................12 Credits
Courses from business administration (BUSA) or management (MGMT).........................................................6 Credits
Courses from College of Business................................6 Credits
Open Electives................................................................22 Credits

Note: Sixty-four non-business credits are required for the major. Of the math, statistics, and economics courses required for the major, 6 credits of math and statistics and 9 credits of economics can be counted toward the requirement for 64 non-business credits.

Total Credits..................................................................64 Credits

Required for a B.S. Degree in Business Administration.....128 Credits

2+2 COMPUTER INFORMATION SYSTEMS
Rochester Community and Technical College (RCTC) &
Winona State University (WSU)

First two years: Associate in Science (A.S.) degree in Liberal Arts at RCTC
Second two years: Bachelor of Science (B.S.) degree in Applied Computer Science with Computer Information Systems Track at WSU

I. General Education Requirements........................................43 Credits
Courses must be selected from those approved to satisfy the competencies of the Minnesota Transfer Curriculum (MNTC) Goals 1-10. Consult the RCTC catalog listings to determine which courses satisfy the areas listed below.

Goal 1: Written and Oral Communication..........................11 Credits
ENGL 1117, 1118† Reading & Writing, Critically I & II .........8 Credits
ENGL 1111 Introductions to Speech..............................4 Credits

Goal 2: Critical Thinking - Met by any course in MNTC goals 1-10
Natural Science .........................................................6 Credits
Choose two courses with labs from two different areas: biology, chemistry, earth science, or physics.

Goal 4: Mathematics .....................................................11 Credits
† MATH 2218 Discrete Mathematics..............................4 Credits
MATH 2219 Applied Calculus for Business & Economics ....3 Credits
MATH 2208 Fundamentals of Statistics............................4 Credits

Goal 5: History and Social Sciences..................................6 Credits
ECON 2214 Principles of Microeconomics OR ..............4 Credits
ECON 2215 Principles of Macroeconomics.......................4 Credits

Choose from the following disciplines with a minimum of 2 credits from two areas: anthropology, geography, history, political science, psychology, sociology.

Goal 6: Humanities and Fine Arts....................................9 Credits
Choose from the following disciplines with a minimum of 2 credits from three different areas: art, English literature, foreign culture, humanities†, journalism, music, philosophy†, speech/theatre.
† Honors equivalent available.

II. Health and Human Performance.................................2 Credits
Any combination of health and/or physical education activity courses 1100-1199. One credit may be from varsity athletics 1210-1236, 2210-2236.

III. Computer Core Requirements .........................................19 Credits
COMP 1150 Computer Science Concepts........................3 Credits
COMP 2243 Programming & Problem Solving....................4 Credits
COMP 2247 Algorithms and Data Structure.....................4 Credits

Note: Students are encouraged to begin taking WSU computer science courses concurrently after completing the above core requirements.

ACCT 2217 Principles of Accounting I............................4 Credits
ACCT 2218 Principles of Accounting II..........................4 Credits

Total Credits..................................................................64 Credits

Note: The award of the A.S. degree waives WSU University Studies requirements except for the Flag requirements (page 19).

MAJOR REQUIREMENTS AT WSU:

Computer Science Core.................................................20 Credits
CS 310 Social Implications of Computing........................3 Credits
CS 341 Data Structures..................................................4 Credits
CS 375 Computer Systems..............................................4 Credits
CS 385 Applied Database Management Systems ..............3 Credits
CS 410 Software Engineering.........................................3 Credits
CS 471 Object Oriented Design and Development ..............3 Credits

Computer Information Systems Track Electives ............12 Credits
Choose two of the following three courses:
CS 344 Introduction to Web Programming....................3 Credits
CS 472 Reusable Software Architecture.........................3 Credits
CS 482 Internet/Web Architecture & Development .........3 Credits
CS 485 Database System Design...................................3 Credits
MIS 362 Management Information Systems......................3 Credits

Computer Information Systems Track Electives ............15 Credits
Choose 9 credits from the following courses:
BUSA 291 Legal Environment of Business ......................3 Credits
ECON 201 Principles of Microeconomics........................3 Credits
ECON 202 Principles of Macroeconomics........................3 Credits
FIN 360 Corporate Finance...........................................3 Credits
MKTG 300 Principles of Marketing................................3 Credits
OM 334 Operations Management..................................3 Credits
MGMT 315 Principles of Management............................3 Credits
MGMT 325 Organizational Dynamics..............................3 Credits

Choose 6 credits from the following courses. At least 3 credits must be at the 400-level.
CS 313 Networking and Telecommunications....................3 Credits
CS 368 Introduction to Bioinformatics OR ......................3 Credits
CS 369 Spatial Information Processing..........................3 Credits
CS 405 Operating Systems............................................3 Credits
CS 411 Software Testing...............................................3 Credits
CS 413 Adv. Networking & Telecommunications ..............3 Credits
CS 415 Principles of Programming Languages.................3 Credits
CS 420 Computer Architecture.......................................3 Credits
CS 425 Numerical Analysis..........................................4 Credits
CS 430 Computer Graphics..........................................3 Credits
CS 433 Digital Image Processing....................................3 Credits
CS 435 Theory of Computation......................................3 Credits
CS 440 Theory of Algorithms........................................3 Credits
CS 444 Human Computer Interaction.............................3 Credits
CS 445 Artificial Intelligence.........................................3 Credits
CS 450 Compilers.........................................................3 Credits
CS 465 Topics: Computing Theory ..................................1-3 Credits
CS 466 Topics: General Computing Applications ..............1-3 Credits
CS 467 Topics: Information System Applications ..............1-3 Credits
CS 470A Distributed System Concepts & Design ..........3 Credits
CS 491 Practicum in Computer Science.............................6 Credits

Open Electives................................................................17 Credits
Total Credits..................................................................64 Credits

Required for a B.S. Degree in Applied Computer Science....128 Credits
† Note: If the economics course is counted as a University Studies requirement, it will not be counted as part of the major.
2+2 COMPUTER SCIENCE
Rochester Community and Technical College (RCTC) &
Winona State University (WSU)

First two years: Associate in Science (A.S.) degree in Liberal Arts at RCTC
Second two years: Bachelor of Science (B.S.) degree in Computer Science at
WSU

I. General Education Requirements

Courses must be selected from those approved to satisfy the
competencies of the Minnesota Transfer Curriculum (MNTC) Goals

1-10. Consult the RCTC catalog listings to determine which courses
satisfy the areas listed below.

Goal 1: Written and Oral Communication

ENGL 1117, 1118 Reading & Writing Critically I & II .... 8 Credits
SPCH 1114 Fundamentals of Speech .................. 3 Credits

Goal 2: Critical Thinking - Met by any course in MNTC goals 1-10

Goal 3: Natural Science

Choose two courses with labs from two different areas: biology,
chemistry, earth science, or physics.

Goal 4: Mathematics

MATH 2218 Discrete Mathematics .......................... 4 Credits
MATH 1127 Calculus I .............................................. 5 Credits
MATH 1128 Calculus II ............................................. 5 Credits

Goal 5: History and Social Sciences

Choose from the following disciplines with a minimum of 2 credits
from two areas: anthropology†, geography†, history†, political science,
psychology†, sociology†.

Goal 6: Humanities and Fine Arts

Choose from the following disciplines with a minimum of 2 credits
from three different areas: art, English literature, foreign culture, humanities†,
journalism, music, philosophy†, speech/theatre.

† Honors equivalent available.

II. Health and Human Performance

Any combination of health and/or physical education activity courses
1100-1199. One credit may be from varsity athletics 1210-1236,
2210-2236.

III. Computer Core Requirements

COMP 1150 Computer Science Concepts ............... 3 Credits
COMP 2243 Programming & Problem Solving .......... 4 Credits.
COMP 2247 Algorithms and Data Structure ............ 4 Credits

Note: Students are encouraged to begin taking WSU computer science
courses concurrently after completing the above core requirements.

Open Electives ....................................................... 5 Credits

Total Credits ..................................................... 64 Credits

Note: The award of the A.S. degree waives WSU University Studies
requirements except for the Flag requirements (page 19)

MAJOR REQUIREMENTS AT WSU:

Computer Science Core........................................... 20 Credits
CS 310 Social Implications of Computing ............... 3 Credits
CS 341 Data Structures ........................................... 4 Credits
CS 375 Computer Systems .................................... 4 Credits
CS 385 Applied Database Management Systems .......... 3 Credits
CS 410 Software Engineering ................................. 3 Credits
CS 471 Object Oriented Design and Development .......... 3 Credits

Computer Science Option Requirements .................. 11 Credits
CS 405 Operating Systems .................................... 3 Credits
CS 415 Principles of Programming Languages ........... 3 Credits
CS 435 Theory of Computation ............................... 3 Credits
PHYS 332 Computer Organization ........................... 2 Credits

Open Electives ...................................................... 18 Credits

Choose 18 credits from the following list of courses:
CS 313 Networking and Telecommunications ............ 3 Credits
CS 344 Introduction to Web Programming ............... 3 Credits
CS 368 Introduction to Bioinformatics OR
CS 369 Spatial Information Processing ................... 3 Credits
CS 411 Software Testing ....................................... 3 Credits
CS 413 Adv. Networking & Telecommunications ........ 3 Credits
CS 420 Computer Architecture ............................... 4 Credits
CS 425 Numerical Analysis .................................... 3 Credits
CS 430 Computer Graphics .................................... 3 Credits
CS 433 Digital Image Processing ............................ 3 Credits
CS 440 Theory of Algorithms ................................ 3 Credits
CS 444 Human Computer Interaction ..................... 3 Credits
CS 445 Artificial Intelligence ................................ 3 Credits

Bioinformatics Track Requirements .......................... 9 Credits
CS 368 Introduction to Bioinformatics ..................... 3 Credits
CS 468 Algorithms in Bioinformatics ....................... 3 Credits
CS 485 Database Systems Design ........................... 3 Credits
Bioinformatics Track CS Electives ............................................... 6 Credits
Choose 6 credits from the following list of courses. At least 3 credits must be at the 400-level.
CS 313 Networking and Telecommunications ........................ 3 Credits
CS 344 Introduction to Web Programming .............................. 3 Credits
CS 405 Operating Systems ..................................................... 3 Credits
CS 411 Software Testing .......................................................... 3 Credits
CS 413 Adv. Networking & Telecommunications ..................... 3 Credits
CS 415 Principles of Programming Languages .......................... 3 Credits
CS 420 Computer Architecture .............................................. 3 Credits
CS 425 Numerical Analysis .................................................... 4 Credits
CS 430 Computer Graphics .................................................... 3 Credits
CS 433 Digital Image Processing ............................................. 3 Credits
CS 435 Theory of Computations ............................................ 3 Credits
CS 444 Human Computer Interaction .................................... 3 Credits
CS 445 Artificial Intelligence .................................................. 3 Credits
CS 450 Compilers ....................................................................... 3 Credits
CS 465 Topics: Computing Theory ........................................ 1-3 Credits
CS 466 Topics: General Computing Applications .................... 1-3 Credits
CS 466 Topics: Information System Applications .................... 1-3 Credits
CS 472 Reusable Software Architectures ................................ 3 Credits
CS 476 Distributed System: Concept and Design .................... 3 Credits
CS 482 Internet/Web Architecture & Development .................. 3 Credits
CS 491 Practicum in Computer Science .................................. 6 Credits
Note: Only 3 credits will count in the major.
CS 495 Computer Science Research Seminar .......................... 3 Credits
PHYS 333 Microprocessor Electronics .................................... 4 Credits

Bioinformatics Track Electives ................................................. 3-4 Credits
One of the following courses OR any 400-level CS elective course listed above:
CHEM 340 Survey of Organic Chemistry .................................. 4 Credits
CHEM 350 Principles of Organic Chemistry (WSU) OR 4 Credits
CHEM 2127 Organic Chemistry I (RCTC) ............................... 4 Credits
Any 400-level CS electives course listed above

Other Major Requirements at WSU ........................................... 7 Credits
STAT 210 Statistics OR ........................................................... 3 Credits
STAT 303 Introduction to Engineering Statistics OR .......... 3 Credits
CS 305 Biometry .................................................................... 3 Credits
BIOL 242 Organismal Diversity (WSU) OR .......................... 4 Credits
BIOL 1230 Survey of Life Forms (RCTC) .............................. 4 Credits

Open Electives ............................................................................. 18-19 Credits
Total Credits ............................................................................. 64 Credits

Required for a B.S. Degree in Computer Science
( Bioinformatics Track) ............................................................... 128 Credits

2+2 ELEMENTARY EDUCATION:
K-6 W/MIDDLE LEVEL COMMUNICATION ARTS AND LITERATURE 5-8 SPECIALTY
Rochester Community and Technical College (RCTC) &
Winona State University (WSU)
First two years: Associate in Arts (A.A.) degree in Liberal Arts at RCTC
Second two years: Bachelor of Science (B.S.) Teaching Degree in Elementary Education with Middle Level Communication Arts & Literature (KMCL) at WSU

Note: The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. In addition, curriculum revisions are in process at RCTC and WSU-Rochester; this process will result in changes not reflected in this catalog. To obtain the latest course requirements, please contact the appropriate department.

I. General Education Requirements ...................................... 44 Credits
Courses must be selected from those approved to satisfy the competencies of Minnesota Transfer Curriculum (MNTC) Goals 1-10. Consult the RCTC catalog listings to determine the specific courses that apply to the areas below. Some courses may be used to meet a goal in 1-6 and one goal in 7-10. All ten goal areas must be met.

Goal 1: Written and Oral Communication ............................ 14 Credits
ENGL 1117, 1118† Reading & Writing Critically I & II .................... 8 Credits
Note: Minimum grade of “B” in one of the two is required
SPCH 1114 Fundamentals of Speech ......................................... 3 Credits
Note: Minimum grade of “B” is required.
SPCH 2214 Strategies of Human Connections ........................... 3 Credits

Goal 2: Critical Thinking - Met by any course in MNTC goals 1-10

Goal 3: Natural Science ................................................................. 6 Credits
Choose two courses with labs from two different areas: biology, chemistry, earth science, or physics.

Goal 4: Mathematics ................................................................ 6 Credits
MATH 1111 Contemporary Concepts in Mathematics (or higher) AND ...................................................... 3 Credits
Note: Minimum grade of “C” in MATH 1111 required.
MATH 1112 Mathematical Reasoning ........................................ 3 Credits

Goal 5: History and Social Sciences .......................................... 9 Credits
SOC 2627 Human Exceptionality ............................................. 2 Credits
HIST 1624 U.S. History to 1865 OR ........................................ 3 Credits
HIST 1625 U.S. History 1865 to Present ................................. 3 Credits
Choose remaining credits from the following disciplines: anthropology, economics, geography, political science, psychology.

Goal 6: Humanities and Fine Arts ............................................ 9 Credits
ENGL 2297 Children’s Literature ............................................. 3 Credits
SPCH 1125 Oral Interpretation ................................................ 3 Credits
Choose from the following disciplines with a minimum of 2 credits from the following areas: art, foreign language, humanities†, journalism, music, philosophy†.
Select a course that meets Goals 7, 8, 9, and 10 if any of these goals have not been met by the courses used to meet Goals 1, 3, 4, 5, and 6.
† Honors equivalent available.

II. Health and Human Performance ........................................ 4 Credits
Any combination of health and or physical education activity courses (1100-1199)

HLTH 1111 Health Education OR ........................................ 3 Credits
HLTH 1132 Drug Use and Abuse ........................................... 3 Credits
Any combination of health and or physical activity courses 1100-1119 or varsity athletics PHED 1210-1236, 2210-2236.......................... 1 Credit

III. Electives .............................................................................. 16 Credits
Total Credits ............................................................................. 64 Credits
Note: The award of the A.S. degree waives WSU University Studies requirements except for the Flag requirements (page 19).
2+2 ELEMENTARY EDUCATION: K-6 W/MIDDLE LEVEL SOCIAL STUDIES 5-8 SPECIALTY

Rochester Community and Technical College (RCTC) & Winona State University (WSU)

First two years: Associate in Arts (A.A.) degree in Liberal Arts at RCTC
Second two years: Bachelor of Science (B.S.) teaching degree in K-6 with Middle Level Social Studies 5-8 (KMSO) at WSU

Note: The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. In addition, curriculum revisions are in process at RCTC and WSU-Rochester; this process will result in changes not reflected in this catalog. To obtain the latest course requirements, please contact the appropriate department.

I. General Education Requirements………………………………………54 Credits

Courses must be selected from those approved to satisfy the competencies of Minnesota Transfer Curriculum (MNTC) Goals 1-10. Consult the RCTC catalog listings to determine the specific courses that apply to the areas below. Some courses may be used to meet a goal in 1-6 and one goal in 7-10. All ten goal areas must be met.

Goal 1: Written and Oral Communication……………………………….11 Credits
ENGL 1117†, 1118† Reading & Writing Critically I & II ............................. 8 Credits
Note: Minimum grade of “B” in one of the two is required
SPCH 1114 Fundamentals of Speech ...................................................... 3 Credits
Note: Minimum grade of “B” is required.

Goal 2: Critical Thinking - Met by any course in MNTC goals 1-10

Goal 3: Natural Science ....................................................................... 6 Credits
Choose two courses with labs from two different areas: biology, chemistry, earth science, or physics.

Goal 4: Mathematics ............................................................................. 6 Credits
MATH 1111 Contemporary Concepts in Mathematics (or higher) ... 3 Credits
Note: Minimum grade of “C” in MATH 1111 required
MATH 1112 Mathematical Reasoning ...................................................... 3 Credits

Goal 5: History and Social Sciences........................................................... 18 Credits
ECON 1101 Introduction to Economics .................................................. 3 Credits
GEOG 1614 Human Geography .............................................................. 3 Credits
HIST 1613 Foundations of Western Civilizations OR ........................ 3 Credits
HIST 1614 Europe in the Modern Ages ................................................... 3 Credits
HIST 1624 U.S. History to 1865 ............................................................... 3 Credits
HIST 1625 U.S. History 1865 to Present .................................................. 3 Credits
SOC 1614 Introduction to Sociology ......................................................... 3 Credits
SOC 2627 Human Exceptionality .............................................................. 2 Credits
ANTH 1612 Cultural Anthropology OR ................................................. 3 Credits
HIST 1631 Modern Asian Civilization OR ............................................ 3 Credits
SPAN 1001 Introduction to Hispanic Cultures (Goal 6) ....................... 3 Credits

Goal 6: Humanities and Fine Arts ...................................................... 9 Credits
ENGL 2297 Children’s Literature ............................................................. 3 Credits
Choose from the following disciplines with a minimum of 2 credits from two different areas: art, foreign culture, humanities†, journalism, music, philosophy†, speech/theatre.

Select a course that meets Goals 7, 8, 9, 10 if these goals have not been met by the courses used to meet Goals 1, 3, 4, 5, 6.† Honors equivalent available.

II. Health and Human Performance.................................................. 4 Credits
Any combination of health and/or physical education activity courses (1100-1199)
HLTH 1111 Health Education OR ......................................................... 3 Credits
HLTH 1132 Drug Use and Abuse ............................................................. 3 Credits
Any combination of health and/or physical activity courses
1100-1119 or varsity athletics PHED 1210-1236, 2210-2236........ 1 Credit

III. Electives ...................................................................................... 10 Credits

Total Credits..................................................................................... 64 Credits

Note: The award of the A.S. degree waives WSU University Studies requirements except for the Flag requirements (page 19).

MAJOR REQUIREMENTS AT WSU:

License Requirements ...................................................................... 10-13 Credits
MTED 125 Mathematics for Elementary Teachers ...................... 4 Credits
PER 200 Teaching Elementary Physical Education .................. 3 Credits
HERS 320 Health Education in Elementary Schools ............... 3 Credits
EDUC 352 Integrating Microcomputers into the Classroom (OR competency) ...................................................... 0-3 Credits

Professional Education Sequence and Teaching Methods ........54 Credits
EDUC 304 Human Development and Learning: Middle Level & K-12......................................................... 4 Credits
EDUC 308 Human Relations and Student Diversity ................ 3 Credits
EDUC 311 Instructional Planning & Assessment: Middle Level and K-12......................................................... 3 Credits
EDUC 449 Middle Level Philosophy, Organization & Interdisciplinary Planning .............................................. 3 Credits
EDUC 459 The Professional Educator .................................................. 3 Credits
EDUC 328 Teaching Reading and Language Arts I ...................... 3 Credits
EDUC 329 Teaching Reading and Language Arts II ..................... 3 Credits
EDUC 330 Literacy for Second Language Learners ...................... 3 Credits
EDUC 333 Teaching Social Studies in the Elementary School ...... 3 Credits
EDUC 334 Teaching Mathematics in the Elementary School ........... 3 Credits
EDUC 335 Teaching of Science & Environmental Studies in the Elementary School ........................................ 3 Credits
MUS 320 Music for Elementary Teachers ........................................... 3 Credits
ART 300 Elementary Art Education ..................................................... 3 Credits
EDST 464 Student Teaching/K-6 Middle Level ....................... 11-14 Credits

Total Credits..................................................................................... 64 Credits

Required for a B.A. Degree in Elementary Education: K-6 with Middle Level Social Studies 5-8 Specialty (KMSO)......................................................... 128 Credits

2+2 NURSING (GENERIC OPTION)

Rochester Community and Technical College (RCTC) & Winona State University (WSU)

First two years: Associate in Science (A.S.) degree in Liberal Arts & Studies at RCTC
Second two years: Bachelor of Science (B.S.) degree in Nursing at WSU

I. General Education Requirements………………………………………60 Credits

Courses must be selected from those approved to satisfy the competencies of Minnesota Transfer Curriculum (MNTC) Goals 1-10. Consult The RCTC catalog listings to determine the specific courses that apply to the areas below. Some courses may be used to meet a goal in 1-6 and one goal in 7-10. All ten goal areas must be met.

Goal 1: Written and Oral Communication……………………………….11 Credits
ENGL 1117†, 1118† Reading & Writing Critically I & II ............................. 8 Credits
SPCH 1114 Fundamentals of Speech ...................................................... 3 Credits

Goal 2: Critical Thinking - Met by any course in MNTC goals 1-10

Goal 3: Natural Science ....................................................................... 6 Credits

Goal 4: Mathematics ............................................................................. 6 Credits

Goal 5: History and Social Sciences........................................................... 18 Credits

Goal 6: Humanities and Fine Arts ...................................................... 9 Credits

Goal 7: Science..................................................................................... 12 Credits

Goal 8: Social Science.......................................................................... 9 Credits

Goal 9: Fine Arts................................................................................... 6 Credits

Goal 10: Performing Arts ..................................................................... 6 Credits

Goal 11: Physical Education and/or Health Education.................. 6 Credits

Goal 12: Physical Education and/or Health Education.................. 6 Credits

Total Credits..................................................................................... 60 Credits

II. Health and Human Performance .................................................. 20 Credits

BIOL 1217 Anatomy and Physiology I ................................................ 4 Credits
BIOL 1218 Anatomy and Physiology II ............................................. 4 Credits
BIOL 2021 General Microbiology ....................................................... 4 Credits
CHEM 1117 General, Organic and Biological Chemistry I. .......... 4 Credits
CHEM 1118 General, Organic and Biological Chemistry II ........ 4 Credits

Goal 4: Mathematics ............................................................................. 4 Credits

Goal 5: History and Social Sciences..................................................... 16 Credits

Goal 6: Humanities and Fine Arts ...................................................... 9 Credits

Goal 7: Science..................................................................................... 12 Credits

Goal 8: Social Science.......................................................................... 9 Credits

Goal 9: Fine Arts................................................................................... 6 Credits

Goal 10: Performing Arts ..................................................................... 6 Credits

Goal 11: Physical Education and/or Health Education.................. 6 Credits

Goal 12: Physical Education and/or Health Education.................. 6 Credits

Total Credits..................................................................................... 64 Credits

Select a Goal 7, 8, 9, 10 course if these areas have not been met by Goals 1, 3, 4, 5, 6.† Honors equivalent available.

II. Health and Human Performance.................................................. 4 Credits
Any combination of health and/or physical education activity courses 1100-1199. One credit may be from varsity athletics PHED 1210-1236, 2210-2236.
III. Nursing Core Requirements ............................................. 3 Credits
NUTR 1211 Principles of Nutrition ................................... 3 Credits
Total Credits ............................................................. 67 Credits

Note: The award of the A.S. degree waives WSU University Studies requirements except for the Flag requirements (page 19).

Prior to applying to the nursing program, the following prerequisite courses must be completed: ENGL 1117/1118 or 1117/1118 and four of the following: BIOL 1217, BIOL 1218, BIOL 2121, NUTR 1211, and both CHEM 117 AND CHEM 1118 (both are needed to meet the chemistry course minimum). All must be completed before a student can begin the Nursing program. MATH 2208 is prerequisite to WSU’s NURS 375.

MAJOR REQUIREMENTS AT WSU:

Nursing ............................................................................. 56 Credits
NURS 300 Caring Skills I .................. .................................. 2 Credits
NURS 301 Caring Skills II .................. .................................. 2 Credits
NURS 311 Clinical Decisions: Adult Health I .................. .................................. 2 Credits
NURS 320 Caring Concepts I ................. .................................. 3 Credits
NURS 321 Caring Concepts II ................. .................................. 3 Credits
NURS 330 Role Development I ................. .................................. 3 Credits
NURS 331 Role Development II ................. .................................. 4 Credits
NURS 345 Health Assessment I ................. .................................. 3 Credits
NURS 360 Pharmacology ................................................. 1 Credit
NURS 366 Pathophysiology ............................................. 3 Credits
NURS 375 Nursing Research, Theory and Technology 3 Credits
NURS 400 Emerging Health Care Systems .................. .................................. 2 Credits
NURS 411 Clinical Decisions: Adult Health II.................. .................................. 2 Credits
NURS 413 Nursing of Families Experiencing Mental Illness 2 Credits
NURS 421 Nursing of Childbearing Families .................. .................................. 2 Credits
NURS 422 Nursing of Childbearing Families .................. .................................. 2 Credits
NURS 423 Role Development III ................. .................................. 4 Credits
NURS 433 Role Development III Seminar .................. .................................. 1 Credit
NURS 471 Community Health Care .................. .................................. 2 Credits
NURS 472 Leadership/Management in Nursing .................. .................................. 2 Credits
NURS 474 Role Development IV ................. .................................. 4 Credits
NURS 484 Role Development IV Seminar .................. .................................. 1 Credit
NURS 491 Capstone Experience in Role Synthesis .......... .................................. 3 Credits
Open Electives .............................................................. 5 Credits
5 credits of upper-division electives (300–400 level courses); 2 of these credits must be nursing electives.

Total Credits ............................................................. 128 Credits

2+2 PSYCHOLOGY
Rochester Community and Technical College (RCTC) & Winona State University (WSU)

First two years: Associate (A.A.) degree in Liberal Arts and Science at RCTC
Second two years: Bachelor of Arts (B.A.) degree in Psychology (Option A) at WSU

1. General Education Requirements ........................................ 42–44 Credits
Courses must be selected from those approved to satisfy the competencies of Minnesota Transfer Curriculum (MNTC) Goals 1–10. Consult the RCTC catalog listings to determine the specific courses that apply to the areas below. Some courses may be used to meet a goal in 1–6 and one goal in 7–10. All ten goal areas must be met.

Goal 1: Written and Oral Communication .......................... 11 Credits
ENGL 1117†, 1118† Reading & Writing Critically I & II .... 8 Credits
PSY 1114 Fundamentals of Speech .................................. 3 Credits

Goal 2: Critical Thinking - Met by any course in MNTC goals 1–10

Goal 3: Natural Science ..................................................... 8–9 Credits
Choose two courses with labs from two different areas: biology, chemistry, earth science, or physics.

Goal 4: Mathematics/Logic Reasoning ................................. 3 Credits
MATH 1111 Contemporary Concepts in Mathematics OR higher

Goal 5: History and Social Sciences ..................................... 13 Credits
Core Course Requirements ................................................. 7 Credits
PSYC 2618 General Psychology (4 Credits)
PSYC 2626 Developmental Psychology (3 Credits)
Choose from the following disciplines with a minimum of two credits from two different areas: anthropology†, economics†, geography†, history†, political science, sociology†. 6 Credits

Goal 6: Humanities and Fine Arts ................................. 9 Credits
Choose from the following disciplines with a minimum of two credits from three different areas: art, English literature, foreign culture, humanities†, journalism, music, philosophy†, speech/theater.

Select a Goal 7, 8, 9, 10 course if these areas have not been met by the courses used to meet Goals 1, 3, 4, 5, or 6.
† Honors equivalent available.

II. Health and Physical Education Requirements .................. 4 Credits
Any combination of health courses (numbered 1102, 1110, 1111, 1114, 1132, 1135, or 2126) and/or physical education courses (numbered 1100–1199). One credit may be from varsity athletics.

Biological Sciences MNTC requirements 2 Credits
CHEM 117 AND CHEM 1118 (both are needed to meet the chemistry course minimum).

III. Open Electives .......................................................... 16–18 Credits
Total Credits ............................................................. 64 Credits
Note: The A.A. degree waives WSU University Studies requirements except for the Flag requirements (page 19).

MAJOR REQUIREMENTS AT WSU:

Psychology................................................................. 29–32 Credits
PSY 231 Statistics ......................................................... 3 Credits
PSY 308 Experimental Psychology .................................. 3 Credits
PSY 350 Psychological Testing and Measurement .......... .................................. 3 Credits
PSY 434 History and Systems of Psychology .................. .................................. 3 Credits

Psychology Electives to Complete the Major .................. .................................. 18 Credits

Total Credits ............................................................. 64 Credits

2+2 SOCIAL WORK
Rochester Community and Technical College (RCTC) & Winona State University (WSU)

First two years: Associate in Arts (A.A.) degree in Liberal Arts at RCTC
Second two years: Bachelor of Social Work (BSW) degree at WSU

1. General Education Requirements ........................................ 42 Credits
Courses must be selected from those approved to satisfy the competencies of Minnesota Transfer Curriculum (MNTC) Goals 1–10. Consult the RCTC catalog listings to determine the specific courses that apply to the areas below. Some courses may be used to meet a goal in 1–6 and one goal in 7–10. All ten goal areas must be met.

Goal 1: Written and Oral Communication .......................... 11 Credits
ENGL 1117†, 1118† Reading & Writing Critically I & II .... 8 Credits
PHED 1210–1236, 2210–2236

Goal 2: Critical Thinking - Met by any course in MNTC goals 1–10

Goal 3: Natural Science ..................................................... 7 Credits
Biol 1110 Human Biology ................................................. 4 Credits
A second course with lab from the following areas: chemistry, earth science, or physics.

Goal 4: Mathematics .......................................................... 4 Credits
MATH 2208 Fundamentals of Statistics .................. .................................. 4 Credits
(Reviewed course, STAT 110, or PSY 231 at WSU-Rochester. Students with less than 64 credits should take an RCTC introductory statistics course.

Goal 5: History and Social Sciences .................................... 13 Credits
PSYC 2618 General Psychology .................................. 4 Credits
PSYC 2626 Developmental Psychology .......... .................................. 3 Credits
SOC 1614 Introduction to Sociology .................................. 3 Credits
A minimum of 3 credits from one of the following disciplines: anthropology, economics, geography, history, political science.

Goal 6: Humanities and Fine Arts ................................. 9 Credits
Choose from the following disciplines with a minimum of two credits from three different areas: art, English literature, foreign culture, humanities†, journalism, music, philosophy†, speech/theater.

Select a Goal 7, 8, 9, 10 course if these areas have not been met by the courses used to meet Goals 1, 3, 4, 5, or 6.
† Honors equivalent available.
II. Health and Human Performance ........................................... 4 Credits
Any combination of health and/or physical education activity courses 1100-1199. One credit may be from varsity athletics.

III. Electives ........................................................................... 18 Credits
Note: Concurrent enrollment at WSU in spring term of the final year at RCTC.

ē SOCW 340 Introduction to Social Work ................................. 3 Credits
ē SOCW 350 Field Experience ............................................... 3 Credits

Total Credits ........................................................................ 64 Credits
Note: The award of the A.A. degree waives WSU University Studies requirements except for the Flag requirements (page 19).

MAJOR REQUIREMENTS AT WSU:
Social Work ............................................................................... 46-49 Credits
ē PSY 231 Statistics OR ....................................................... 3 Credits
ē STAT 110 Fundamentals of Statistics ................................... 3 Credits
Note: If MATH 2208 was taken at RCTC, neither of the above is required.
ē SOCW 340 Introduction to Social Work ............................. 3 Credits
ē SOCW 350 Field Experience ............................................... 3 Credits
ē SOCW 365 Social Work Practice I - Ethics and Interviewing .................................................. 3 Credits
ē SOCW 370 Human Behavior in the Social Environment .......... 3 Credits
ē SOCW 380 Social Welfare Policy I ...................................... 3 Credits
ē SOCW 385 Social Work Practice II - Families and Groups ........................................................................ 3 Credits
ē SOCW 390 Social Work Practicum Preparation ...................... 4 Credits
ē SOCW 410 Analysis of Social Welfare Policy ....................... 3 Credits
ē SOCW 415 Social Work Practice III - Organizations and Communities .................................................... 3 Credits
ē SOCW 475 Social Work Senior Practicum ........................... 12 Credits
ē SOCW 480 Integrative Social Work Seminar ....................... 3 Credits
ē SOCW 355 Multicultural Issues OR .................................. 3 Credits
ē SOCW 435 Social Work with Diverse Populations ............... 3 Credits
ē Open Electives ................................................................ 15-18 Credits

Total Credits ........................................................................ 64 Credits
Required for a Bachelor of Social Work Degree .................. 128 Credits

WSU COLLEGES & UNDERGRADUATE PROGRAMS
PROGRAM DESCRIPTIONS

The remainder of this catalog is arranged in the following major sections:
• Description of the colleges that make up the University: College of Business, College of Education, College of Liberal Arts, College of Nursing and Health Sciences, and College of Science and Engineering.
• Alphabetic listing of all academic programs (including pre-professional and professional sequences).

For each program, the catalog outlines the following information: majors, minors, program options, and licensure programs; program-specific academic requirements; graduation requirements; and course descriptions. Course descriptions include the following elements:

Course Number, Title, and Credits: The course number indicates the level at which the course should be taken. Generally, first-year students take 100-level courses; sophomores, 200-level; juniors, 300-level; and seniors, 400-level. Students are required to limit course selection to courses not more than one level above their class standing. First-year students are not permitted to enroll in 400-level courses.

Undergraduate students who need 12 or fewer semester credits to complete all baccalaureate degree requirements may request permission from the Director of Graduate Studies to take courses for graduate credit to complete a regular course load during the semester of graduation. However, undergraduate students may not enroll in courses at the 600-level or 700-level.

Course Content: A brief description of subject matter gives students an idea of what to expect in the course.

Prerequisites: A prerequisite is either a course that must be completed prior to enrolling in the course or some other requirement that must be met prior to enrolling in the course.

Grading Method: If a course is offered on a grade-only or pass/no credit-only basis, that status is included in the course description. A department’s general pass/no credit policy is included in its listing of program requirements. Students should check the policy before enrolling in a course on a pass/no credit basis.

Frequency of Offering: Course descriptions may indicate how often the course is offered.
MISSION
The mission of the College of Business is to provide quality undergraduate business programs that prepare students to apply their knowledge and skills creatively, responsibly, and adaptively. In so doing, students will exemplify the qualities of engaged, well-educated citizens—successfully responding to the challenges of their work, lives, and the communities in which they live.

The College of Business fosters an engaging and supportive learning environment informed by pedagogical scholarship and enhanced by applied research that promotes both human and economic development in Southeast Minnesota. Based on an integrated liberal arts education core woven through the curriculum, our students learn effective communication skills, collaborative problem-solving abilities, analytical thinking skills, and the application of contemporary business practices. Thus, WSU graduates are prepared to react responsibly and creatively to social, economic, global, and technological changes in their careers.

Departments in the College use assessment techniques to ensure educational excellence; conduct periodic program reviews as required by the Minnesota State Colleges and Universities system; and solicit input from stakeholders—students, alumni, and businesses.

DEPARTMENTS

FACULTY
Over 85 percent of College of Business faculty hold terminal degrees in their respective fields of study. In addition to their dedication to teaching, the majority engage in significant ongoing research in business. Faculty members also bring to their teaching the knowledge they gain from regularly consulting with businesses and nonprofit organizations and from attending professional conferences, seminars, and workshops. Many business faculty participate in developing innovative and interdisciplinary approaches to teaching that help to broaden student perspectives.

CAREER OPPORTUNITIES
The career opportunities for business majors continue to be strong and varied. Many graduates of the College of Business are employed by top accounting firms and leading international and domestic corporations. Some work in government agencies and nonprofit organizations. A significant number of WSU business majors attend graduate school sometime during their professional career.

INTERNSHIPS
All departments in the College of Business offer internship opportunities that allow students to gain valuable business experience before they graduate. Many of these internships lead to job opportunities immediately after graduation.

SCHOLARSHIPS
In addition to general university scholarships, a number of scholarships are designated for majors in the College of Business. These scholarships are awarded on a competitive basis. Students should watch for the application deadlines during the spring semester and apply directly to the College of Business.

STUDENT ORGANIZATIONS
Several student organizations are available for majors and minors in the College of Business. These organizations provide students with numerous opportunities to prepare for their profession through attendance at conferences and workshops, interaction with practitioners in their field, and social networking. Student organizations are actively involved in bringing speakers to campus who present a broad range of business topics.

UNDERGRADUATE DEGREES OFFERED BY THE COLLEGE OF BUSINESS

<table>
<thead>
<tr>
<th>Department/Program</th>
<th>BA Major</th>
<th>BA Minor</th>
<th>BS Major</th>
<th>BS Minor</th>
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<tbody>
<tr>
<td>Accounting Department</td>
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<tr>
<td>Accounting (ACCT)</td>
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<td>Economics and Finance Department</td>
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<td>Economics (ECON)</td>
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<td>Marketing (MKTG)</td>
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</table>
MISSION

The College of Education’s mission is to provide continuing leadership and excellence in preparing classroom teachers, counselors, administrators, and other professionals in education, recreation, and therapeutic recreation. It accomplishes its mission by offering undergraduate and graduate programs, which prepare professionals for practice in both public and private sectors of society.

The College strives to provide the knowledge, skills, professionalism, and practice necessary to enable students to perform with excellence as professionals and leaders in the service region, state, nation, and world. The College endeavors to provide students with appropriate field experiences in the region, throughout Minnesota, and other states. Further, it provides opportunities for cross-cultural and international awareness through general education, professional work, and travel study.

Faculty members in the College are committed to the serious study of education and the promotion of professional standards to foster innovation in professional preparation.

ACADEMIC DEPARTMENTS

Counselor Education; Education; Educational Leadership; Physical Education and Sport Science; Recreation, Tourism and Therapeutic Recreation; and Special Education.

Note: The Department of Educational Leadership offers only graduate-level programs. See the Graduate Catalog for more information.

ADMISSION AND GRADUATION STANDARDS

Refer to the appropriate department for details. For a checklist of the University graduation requirements, see page 23.

ACCREDITATION AND PROFESSIONAL MEMBERSHIP

WSU is accredited by the National Council for Accreditation of Teacher Education (NCATE). All teacher education and school counselor programs have been approved by the Minnesota Board of Teaching. In addition, several programs have received national recognition from the following professional organizations: Association for Childhood Education International, Council for Exceptional Children, National Association for the Education of Young Children, National Association of Schools of Music, National Council of Teachers of English, National Council of Teachers of Mathematics, and the National Council for the Social Studies.

WSU’s Counselor Education programs are accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP) and NCATE. Programs in the Department of Educational Leadership are also accredited by NCATE and approved by the Minnesota Board of School Administrators (MBSA).

The College of Education is a member of the American Association of Colleges for Teacher Education (AACTE) and the Minnesota Association of Colleges for Teacher Education (MACTE).

PARTNERSHIPS

The College of Education and the Professional Education Unit are committed to active and equal partnerships with local schools and other educational and recreational organizations as demonstrated by (but not limited to) the following ongoing partnerships including:

• Urban Teacher Education Partnership (UTEP) – A collaboration of St. Paul Public schools and the seven Minnesota State Colleges and Universities teacher preparation institutions.
• Student teaching exchange program with Fort Valley State University (Fort Valley, Georgia).
• Student teachers in over 40 contracted schools in Wisconsin and Minnesota.
• ELOSA – Educational Leaders on Special Assignment at WSU.
• Teacher exchanges of university faculty and school district faculty.
• The Partnership for Lifelong Learning – Phase I Early Childhood.
• Graduate Induction Program with Rochester Public Schools (Rochester, Minnesota).
• Transforming School Counseling Partnership with Rochester Public Schools (Rochester, Minnesota).
• Learning Community Master Teacher Program.
• Innovative Academic Programs.
• Teacher Licensure Collaborative Program (TLC).
• Pacific Challenge Australia/New Zealand Travel Study Program.

HONOR SOCIETIES AND STUDENT ORGANIZATIONS

 Academically accomplished students are recognized by WSU chapters of the professional honor societies Kappa Delta Pi and Alpha Upsilon Alpha. Pre-professional students may join student chapters of professional organizations: American Therapeutic Association, Education Minnesota Student Program, Minnesota Recreation and Park Association, National Recreation and Park Association, Student Association for Supervision and Curriculum Development, Student Council for Exceptional Children, and the Student International Reading Association.

MAXWELL CHILDREN’S CENTER

The Maxwell Children's Center (located in Wabasha Hall and Madison Elementary School) provides a living laboratory of child development and exemplary practice for students in professional education programs at WSU. Future teachers have opportunities to work with and observe children from birth through school age. The Children's Center is an important part of the College of Education and the Professional Education Unit. The Center keeps the learning and development of children at the forefront of our professional education programs.

In addition to experiences at the Maxwell Children's Center, students in professional education programs in the College of Education are in schools and other professional settings throughout their programs. Teacher education majors can expect to spend time in Pre-K-12 classrooms every semester while they are in the program, beginning as early as their second semester on campus. Recreation majors culminate their programs in an internship of their choosing after a variety of professional experiences within their major courses.

UNDERGRADUATE DEGREES OFFERED BY THE COLLEGE OF EDUCATION

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<thead>
<tr>
<th>Bachelor of Science</th>
<th>Teaching Major</th>
<th>Non-Teaching Major</th>
<th>Non-Teaching Minor</th>
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<td>Middle Level Social Studies 5-8 Specialty (KMSS)</td>
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<td>Physical Education &amp; Sport Science Department</td>
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<td>Coaching (COAC)</td>
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<td>Physical Education (PET)</td>
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<td>Recreational, Tourism, &amp; Therapeutic Recreation Department</td>
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<td>Adventure Tourism (ADVT)</td>
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<td>Special Education Department</td>
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<td>Learning Disabilities (SELD)</td>
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</table>
GRADUATE DEGREES OFFERED BY THE COLLEGE OF EDUCATION
See the Graduate Catalog for program descriptions and other pertinent information.

ADVANCED LICENSURE PROGRAMS
Developmental Disabilities (DD)
Learning Disabilities (LD)
pK-12 Principal
Superintendent
Teacher Licensure Collaborative (TLC)

CERTIFICATE PROGRAMS
Educational Technology Certificate
Outdoor Education/Adventure Based Leadership
Training and Development Certificate
Sports Management

MASTER OF SCIENCE (M.S.)
Counselor Education
   Community Counseling
   Elementary School Counseling
   Secondary School Counseling
   Professional Development

Minné Hall, Room 206 (507-457-5017)

MISSION
The mission of the College of Liberal Arts is to offer degree programs in the arts, humanities, and social sciences as well as in specialized professional and occupational areas. The College also seeks to provide a comprehensive base of liberal arts studies as the foundation of all degrees. These two facets of the mission translate into the two major responsibilities for faculty members:

1. Providing a broad array of quality programs in the liberal arts and related professional fields.
2. Providing the majority of the University Studies curriculum to all WSU students.

The specific missions for the College of Liberal Arts are:

1. Develop a depth of knowledge in a primary liberal arts discipline.
2. Develop breadth through knowledge and appreciation of the arts, humanities, and social sciences beyond one’s primary discipline.
4. Make individuals aware of the rights and responsibilities they have to themselves and a democratic society.
5. Prepare individuals to meet the career challenges of a rapidly changing and multicultural society. Contribute to the development of basic and applied knowledge in the liberal arts fields.

DEPARTMENTS/PROGRAMS

FACULTY
Over 80 percent of the liberal arts faculty members have terminal degrees in their fields from prominent universities. Many are widely known for their scholarly and creative efforts as well as for their excellence as teachers.

CAREER OPPORTUNITIES
The opportunities for career education within the College of Liberal Arts are many and varied. The B.A. degrees in all the College’s disciplines provide opportunities for employment or preparation for advanced degree work in those areas. B.S. (teaching) degrees educate students for careers in teaching art, music, speech/theatre, English, foreign languages, and social science. Departments within the College of Liberal Arts offer specific professional preparation in such areas as criminal justice, mass communication, paralegal, public administration, and social work.

Equally important in career planning is the fact that a liberal arts education provides students with career skills that are useful in many professions not listed above, but including business, law, and medicine. These skills have general applicability, and they provide considerable vocational choice and career flexibility.

RESEARCH, COMMUNITY SERVICE, AND PARTNERSHIPS
The College supports faculty/student research, community service, and partnerships with business and nonprofit agencies in a variety of ways. Examples of departments that encourage faculty/student research include Psychology, History, and Law and Society. Examples of partnerships include the National Child Protection Training Center and the Child Advocacy Program, Theater du Mississippi for the Frozen River Film Festival, and the Great River Shakespeare Festival. Several departments encourage or require internships, capstone experiences, and community service opportunities, which involve working with the City of Winona; the Women’s Resource Center; Olmsted County and Winona County Prosecutor’s Offices; the Winona County Historical Society; Fastenal Company; Catholic Charities’ Refugee Resettlement in Rochester; and others.

The College also supports study abroad opportunities, including a joint degree arrangement with Soonchunhyang University in Seoul, South Korea; study of Spanish language and culture at the University of Granada; and study abroad agreements with Southern Cross University in Australia, Akita International University in Japan, and Hebei University of Technology in China. In addition, there are opportunities available through other universities.

SCHOLARSHIPS
In addition to general university scholarships, several departments offer scholarships for their majors. Such scholarships are available in art, history, music, paralegal, social work, sociology, psychology, and theatre. Contact the appropriate department for more details.

FACILITIES
The majority of the liberal arts faculty offices and facilities are located in Minné Hall or the Performing Arts Center. The Art Department is located in Watkins Hall; the Foreign Language Department is in Somsen Hall; the Music Department and the Mass Communication Department are in Phelps Hall. The Dance Studio is located in Memorial Hall.

EDUCATIONAL SPECIALIST (Ed.S.)
Educational Leadership
PK-12 Principal
Superintendent
### Undergraduate Degrees Offered by the College of Liberal Arts

#### Arts Department
- Art
  - Graphic Design Option (ARTG) X
  - Studio Art Option (ARTS) X X
  - History of Art (ARTH) X
  - Art (teaching) (ARTT) X
- Arts Administration Program
  - Arts Administration (AAD) X

#### Child Advocacy Program
- Child Advocacy Studies (CAST) X

#### Communication Studies Department
- Communication Arts and Literature (teaching) (CALT) X
- Communication Studies (CS) X X
- Intercultural Communication (ITCO) X

#### English Department
- English
  - Literature and Language (ENGL) X X
  - Applied Linguistics (ENGA) X
  - Writing Option (ENGW) X
  - First Combining Major Literature and Language (ENGF) X
  - Second Combining Major Writing Option (ENG8) X
  - Creative Writing (ENGW) X
  - Applied & Professional Writing (EAPW) X
  - TESOL (ENGE) X
  - Communication Arts and Literature (teaching) (CALT) X
  - Teaching English as a Second Language K-12 (teaching) (ESLT) X

#### Foreign Languages Department
- French (FREN) X X
- German (GERM) X X
- Spanish (SPAN) X X
- French (teaching) (FRNT) X
- German (teaching) (GRMT) X
- Spanish (teaching) (SPNT) X

#### Geography
- Geography (GEOG) X

#### Global Studies Program
- Global Studies (GLST) X
- Asian Option (GSAS) X
- European Studies (GSEU) X
- Latin American Studies (GSLA) X
- North American Option (GSNA) X

#### History Department
- History (HIST) X X
- Law and Society (LWSO) X
- Paralegal (PLG) X
- Social Science/History (Secondary Social Studies/Teaching) (SSHT) X

#### Music Department
- Music (MUSA; MUSS) X X
- Liberal Arts Option (MUSL) X
- Performance Option (MUSP) X
- Jazz Studies (MUJS) X
- Music Business (MUBU) X
- Music Education (teaching)
  - Instrumental Option (MISTI) X
  - Vocal Option (MISTV) X

#### Philosophy Department
- Philosophy (PHIL) X

#### Political Science Department
- General (Option A) (POLA) X
- International Studies (Option B) (POLB) X

#### Psychology Department
- Psychology (PSY) X
- Option A (PSYA) X
- Option B (PSYB) X

#### Social Work Department
- Social Work (SOCW) X

#### Sociology Department
- Sociology (SOC; SOCG) X X
- Family Studies Option (SOCF) X
- Gerontology (SGER) X X
- Human Services Option (SOCH) X
- Sociology: Criminal Justice
- Corrections Option (SCJC) X
- Law Enforcement Option (SCIL) X

#### Theatre and Dance Department
- Dance (DANC) X
- Theatre (THTTR) X X

#### Women's and Gender Studies Program
- Women's and Gender Studies (WAGS) X

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### Graduate Degrees Offered by the College of Liberal Arts

Master of Arts – English  
Master of Science – English

See the Graduate Catalog for program descriptions and other pertinent information.
MISSION

The College of Nursing and Health Sciences provides quality undergraduate and graduate programs in nursing and the health sciences. These programs are designed to graduate caring, ethical, competent, and progressive professionals who are sensitive to diversity and prepared to work with clients through health promotion, prevention of health problems, and care during illness. In addition to its professional programs, the College seeks to promote health awareness at WSU. The College’s educational environment supports lifelong wellness in the individual, the University, the community, and global society.

ACCREDITATION

All Bachelor of Science in Nursing and Master of Science in Nursing programs are fully accredited (2003-2013) by the Commission on Collegiate Nursing Education (CCNE), 1 Dupont Circle NW, Suite 530, Washington, DC 20036-1120. CCNE exclusively accredits baccalaureate and higher degree programs in nursing. The undergraduate nursing major is approved by the Minnesota Board of Nursing (2003-2013).

The Athletic Training major holds full accreditation by the Commission on Accreditation of Athletic Training Education (CAATE). All health education programs have continuing accreditation by the National Council for Accreditation of Teacher Education (NCATE) and approval by the Minnesota Board of Teaching.

DEPARTMENTS

• Nursing
• Health, Exercise and Rehabilitative Sciences

SCHOLARSHIP AND COMMUNITY SERVICE

The College supports faculty and student scholarship/research within the University and with educational partners in the region. Faculty hold joint appointments or consultant roles with agencies such as Gundersen-Lutheran Medical Center and Mayo-Franciscan Skemp (La Crosse, WI); Mayo Department of Nursing (Rochester, MN); Migrant Health Center and Community Clinic (Rochester, MN); Hawthorne Center (Rochester, MN), Winona Health (Winona, MN); Olmsted County Public Health Services (Rochester, MN); and the University of West Indies School of Nursing (Kingston, Jamaica, West Indies). Faculty collaborate with major clinical education partners on local, regional and national funded projects. Community service is demonstrated in many ways within and outside the University. Faculty hold practice appointments in the Hiawatha Valley Mental Health Center (Winona, MN) and the Migrant Health and Community Clinic (Rochester, MN); manage the campus cardiopulmonary rehabilitation program; direct research in the campus human performance laboratory; and collaborate with major affiliates on local, regional, and national service-learning projects.

FACULTY

A majority of the faculty hold doctoral degrees earned at prominent universities throughout the United States. In addition, the learning environment in the classroom and practica/internship/clinical sites are supported by other professional experts in the region who hold graduate degrees in nursing and the health sciences. All faculty hold appropriate/required licensure and/or certifications in their respective discipline, maintain their clinical excellence, and are recognized for their expertise among their faculty/practice colleagues.

FACILITIES

The Department of Health, Exercise and Rehabilitative Sciences is located on the Winona campus in Memorial Hall. The Department of Nursing provides two locations for undergraduate nursing: Stark Hall on the Winona campus and WSU-Rochester in Rochester, MN. The Generic Option is offered at both sites, and the RN-to-BS Option is delivered primarily from the Rochester site. The Master’s Program in Nursing is located at WSU-Rochester. (See the Graduate Catalog for information on the Master’s Program in Nursing.)

UNDERGRADUATE DEGREES OFFERED BY THE COLLEGE OF NURSING AND HEALTH SCIENCES

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<th>BS Major Teaching</th>
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<td>Health, Exercise and Rehabilitative Sciences Department</td>
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<td>Athletic Training (AT)</td>
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<tr>
<td>Exercise and Rehabilitative Science</td>
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<tr>
<td>Cardiopulmonary Rehabilitation (ERCR)</td>
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<tr>
<td>Exercise Science (ERES)</td>
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<tr>
<td>Movement Science (ERMS)</td>
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<tr>
<td>Health Promotion</td>
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<td>Community Health (HPCH)</td>
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<tr>
<td>School Health (HPST)</td>
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</tbody>
</table>

Nursing Department

| | Non-Teaching | Teaching |
| Nursing – Generic Option (NUGE) | X | |
| Nursing – RN-to-BS Option (NURN) | X | |
| RN-to-MS Professional Pathway | X | |

GRADUATE DEGREES OFFERED BY THE COLLEGE OF NURSING AND HEALTH SCIENCES

Master of Science - Advanced Practice Nursing. Students choose from four focus areas:

• Nursing Administrator
• Nursing Educator
• Clinical Nurse Specialist
• Adult or Family Nurse Practitioner

Note: All focus areas offer a Post-Master’s Degree Certificate. See the Graduate Catalog for program descriptions and other pertinent information.
COLLEGE OF SCIENCE AND ENGINEERING

W. Harold Ornes, Dean
Pasteur Hall, Room 101 (507-457-5585)

MISSION
The College of Science and Engineering is committed to furthering 21st century advances in science, technology, engineering, and mathematics (STEM) by inspiring the next generation of innovators and teachers and by promoting research and scholarship across STEM disciplines. Through a broad range of major, minor, and pre-professional programs, as well as through basic skills, interdisciplinary, and research-rich learning environments, the College endeavors to ensure the success of all students.

Degree programs in the College assume that students have taken proper college preparatory courses in high school including at least three years of mathematics. It is recommended that students have at least one year each of high school biology, chemistry, and physics. High school science and mathematics deficiencies can be remedied by taking equivalent courses at WSU.

College curricula are intentionally designed to provide meaningful, challenging educational experiences and to build deep connections between STEM experiences and disciplinary interests, career goals, and societal issues. To achieve these goals, the College strives to integrate curriculum with vital research in a range of settings, which include research conducted in Upper Mississippi River region environments as well as significant experience at nearby healthcare centers, regional manufacturing and composites industries, state-of-the-art laboratory and computing facilities, and area school districts. These learning experiences help students develop purpose and passion for lifelong learning.

In fulfilling its mission, the College provides high quality undergraduate curricula in STEM leading to the Bachelor of Arts and Bachelor of Science degrees as well as pre-professional programs promoting student progression into a wide range of clinical, professional, and post-graduate studies at other institutions. Pre-professional programs are not degree programs (e.g., majors or minors) at WSU. These programs are preparatory for an advanced degree at another college or university. WSU offers pre-professional sequences in dentistry, engineering, law, medicine (allopathic and osteopathic), optometry, pharmacy, physical therapy, physician assistant, podiatry, and veterinary medicine. See page 187 for pre-professional program descriptions.

DEPARTMENTS
Biology, Chemistry, Computer Science, Engineering, Geoscience, Mathematics and Statistics, and Physics.

RESEARCH AND COMMUNITY SERVICE
The College supports student and faculty research, industrial interaction, and community service. To further these goals, the College has established centers, under faculty supervision, which provide unique student employment opportunities in “real-world” research and problem-solving:

• Southeast Minnesota Analytical Service (SEMAS): Operated by the Chemistry Department, SEMAS serves local and regional cities, counties, businesses, and corporations that need analytical testing of water, industrial products, and chemicals. Chemistry majors work year-around in SEMAS as laboratory technicians and assistants.

• Composite Materials Technology Center (COMTEC): Managed by the Engineering Department, COMTEC tests manufactured materials and products for numerous local and regional companies that need quality assurance and specification testing. The center also serves as a working laboratory for instruction and engineering research.

• Large River Studies Center (LRSC): Administered through the Biology Department, LRSC provides students with the opportunity to conduct research on large river ecosystems and associated bodies of water. LRSC also is responsible for disseminating information about the upper Mississippi River and other large river ecosystems to local, regional, and scientific communities.

• Southeastern Minnesota Water Resources Center (WRC): Housed in the Geoscience Department, WRC is dedicated to scientific inquiry into the natural and hydrological resources of the Southeast Minnesota. The WRC strives to educate and inform students, citizens, and public agencies of the region about our natural resources through the development of partnerships and research.

INTERNSHIPS
Students are encouraged to include internships as part of their course of study. Internships provide valuable work experience with potential employers such as corporations or governmental agencies. Most internships are undertaken during the senior year under the supervision of a WSU faculty member.

PROGRAM PREREQUISITES
Degree programs in the College assume that students have taken proper college preparatory courses in high school including at least three years of mathematics. It is recommended that students have at least one year each of high school biology, chemistry, and physics. High school science and mathematics deficiencies can be remedied by taking equivalent courses at WSU.

UNDERGRADUATE DEGREES OFFERED BY THE COLLEGE OF SCIENCE AND ENGINEERING

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Notes:
1. Effective fall semester 2007, the Clinical Laboratory Science program (page 75) replaced the Medical Technology program (MEDT). Students currently majoring in MEDT will be able to complete the program and graduate with a B.S. major in Medical Technology.
2. The state of Minnesota no longer issues teaching licenses for Bachelor of Science minors.
3. The Aviation Maintenance Management program is offered as a Professional Studies major in the College of Liberal Arts; however, courses are taught by the Physics Department. See page 191 for the program description.

ACCOUNTING
Somsen Hall, Room 323A (507-457-5860)
Frederic Ihrke (Chairperson)

FACULTY
J. Lawrence Bergin, Professor; B.S., M.B.A., Northeastern University; 1981 –
James E. Hurley, Associate Professor; B.S., M.A., Ph.D., University of Nebraska; 1983 –
Frederic Ihrke, Professor; B.S., Bemidji State University; M.B.T., University of Minnesota-Twin Cities; J.D., William Mitchell College of Law; Certified Public Accountant (CPA) Minnesota; 1981 –
Gloria McKay, Associate Professor; B.S., M.B.A., Minnesota State University-Mankato; Ph.D., University of Kentucky; 2000 –
John D. Morgan, Associate Professor; B.A., University of Iowa; M.S., Arizona State University; Ph.D., University of Nebraska, Lincoln; Certified Public Accountant (CPA); Certified Management Accountant (CMA); 2006 –
William Ortega, Associate Professor; B.B.A., University of Iowa; M.B.A., Indiana University; Ph.D., Florida State University; Certified Management Accountant (CMA); 2003 –
Larry Sallee, Professor; B.S., University of Wisconsin-Superior; M.B.A., University of Wisconsin-La Crosse; D.B.A., U.S. International University; Certified Public Accountant (CPA); Certified Management Accountant (CMA); 1985 –

PURPOSE
The purpose of the accounting program is to prepare students for careers in business and government, with emphasis on preparation for professional certification.

PASS/NO CREDIT (P/NC) COURSES
Except for internships and practica, students must take all courses in the Accounting major and minor on a grade-only basis. The P/NC option is available to non-majors unless otherwise noted in the accounting course descriptions. Courses offered on a pass/no credit only or grade only basis are so designated in the course descriptions.

GRADUATION REQUIREMENTS
For a checklist of the University’s graduation requirements, see page 23. Specific requirements for accounting majors/minors are as follows:
1. Complete all coursework and satisfy all other WSU requirements for a B.S. major in Accounting.
2. Complete a minimum of 15 credit hours of 300/400-level ACCT courses at WSU.
3. Achieve a grade of “C” or better in each course listed under B.S. Major-Accounting.
4. Earn at least a 2.50 overall GPA and a 2.50 GPA in ACCT courses.
5. Complete at least 50% of the College of Business credits required for the accounting major at WSU.
6. Sixty-four non-business credits are required for the Accounting major. Of the math, statistics, and economics courses required for the major, 6 credits of math and statistics and 9 credits of economics can be counted toward the requirement for 64 non-business credits.

UNIVERSITY STUDIES FLAG REQUIREMENTS (12 S.H.)
Students may use flag courses to satisfy both University Studies and major requirements; flag courses will usually be in the student’s major or minor program. University Studies Flag requirements are as follows: Oral Flag (3 S.H.), Math/Critical Analysis Flag (3 S.H.), and Writing Flag (6 S.H.). The Department of Accounting offers the following flag course in the University Studies Program:

 Writing Flag
ACCT 471 Auditing (3)

For accounting majors and minors, flag courses are identified in the lists of required courses and electives in this section.

WSU-ROCHESTER
The department’s major is available through the 2+2 Program at the WSU-Rochester campus. See page 37 for the articulation of the 2+2 Accounting Program.

B.S. MAJOR - ACCOUNTING (ACCT)
78-79 S.H. (No Minor Required)

Accounting majors must earn a “C” or better in accounting prerequisite courses in order to take the next course. All courses are offered each year on the Winona campus unless otherwise noted in the course descriptions.

REQUIRED COURSES (69-70 S.H.)
Accounting - ACCT (30 S.H.)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>211</td>
<td>Financial Accounting Principles</td>
<td>3</td>
</tr>
<tr>
<td>212</td>
<td>Managerial Accounting Principles</td>
<td>3</td>
</tr>
<tr>
<td>220</td>
<td>Accounting Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>311</td>
<td>Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>312</td>
<td>Intermediate Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>330</td>
<td>Accounting Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>361</td>
<td>Intermediate Managerial/Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>413</td>
<td>Advanced Financial Accounting</td>
<td>3</td>
</tr>
</tbody>
</table>

Economics/Finance (9 S.H.)
* ECON 201 Principles of Microeconomics (3)
* ECON 202 Principles of Macroeconomics (3)
FIN 360 Business Finance (3)

Business Administration (24 S.H.)
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSA 220</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BUSA 320</td>
<td>Intermediate Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BUSA 301</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>BUSA 311</td>
<td>Business Law II</td>
<td>3</td>
</tr>
<tr>
<td>MIS 362</td>
<td>Management Informational Systems</td>
<td>3</td>
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Management (3 S.H.)
<table>
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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKTG 300</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

Introduction to Taxation (3)
ACCT 471 Auditing (3)

421
Mathematics (3-4 S.H.)
MATH 140 Applied Calculus (3) OR MATH 160 Calculus I (4)

ELECTIVES (9 S.H.)
Any 300- or 400-level course from the Economics and Finance department (3) and 300- or 400-Level ACCT electives (6)

Note: Students should be aware that the following courses also satisfy flag requirements:
• ECON 303 Intermediate Macroeconomics (3)
• ECON 304 Money and Banking (3)
• FIN 335 Forecasting Methods (3)
• FIN 421 Institutional Investment and Financial Markets (3)
• MGMT 317 Management of Human Resources (3)

B.S. MINOR - ACCOUNTING (ACCT)
21 S.H.

REQUIRED COURSES (18 S.H.)
Accounting - ACCT
211 Financial Accounting Principles (3)
212 Managerial Accounting Principles (3)
220 Accounting Computer Applications (3)
311 Intermediate Accounting I (3)
421 Introduction to Taxation (3)
Business Administration - BUSA
291 Legal Environment of Business (3) OR
301 Business Law I (3)

ELECTIVES (3 S.H.)
Any accounting (ACCT) course

COURSE DESCRIPTIONS (ACCT)
211 - Financial Accounting Principles (3 S.H.)
The study of topics in financial accounting, including the accounting cycle, forms of business organizations, assets, liabilities, owner's equity, and financial statement preparation and analysis. Examples are drawn from service, merchandising, and manufacturing organizations. Prerequisite: WSU math proficiency.

212 - Managerial Accounting Principles (3 S.H.)
The study of managerial accounting principles including cost behavior, job order costing, process costing, cost-volume-profit relationships, contribution costing, standard costs, relevant costs, and budgets. Additional topics may include the Statement of Cash Flows and financial statement analysis. Prerequisite: ACCT 211.

220 - Accounting Computer Applications (3 S.H.)
This course starts with an in-depth review and expansion of bookkeeping in a manual accounting system. The course assumes the student has a strong background in basic financial accounting. The course then moves to "hands on" experience with Excel (including construction of spreadsheet formulas involving IF, IF/OR, IF/AND commands, statistical and financial functions, graphing and spreadsheet links), Powerpoint, and accounting software. Working with a leading integrative computerized accounting software package is a main focus of the course. Prerequisites: ACCT 211 and ACCT 212 and completion of, or concurrent enrollment in, ACCT 311. (This course is designed to be taken during the same semester that the student is taking ACCT 311, Intermediate Accounting I.)

311 - Intermediate Accounting I (3 S.H.)
Major emphasis on financial accounting. Review of basic financial statements. Development of accounting principles and procedures related to assets (cash, receivables, investments, inventories, plant and equipment, intangibles, and the time value of money). Prerequisites: ACCT 212, ACCT 220, or ACCT 212 and concurrent enrollment in ACCT 220. Not open to students in their first year of college study.

312 - Intermediate Accounting II (3 S.H.)
Development of accounting principles and procedures related to liabilities, owner's equity, revenue recognition, and special topic areas such as pensions and leases. Prerequisite: ACCT 311.

330 - Accounting Information Systems (3 S.H.)
A study of the principles underlying the design and installation of accounting systems and survey of methods of processing data with an emphasis on internal control. Prerequisites: ACCT 311 or ACCT 212 and MIS 362.

340 - Governmental and Not-For-Profit Accounting (3 S.H.)
This course is designed to analyze the funds used by state and local units of government. Also covered are accounting methods and procedures used by hospitals, colleges and universities, voluntary health and welfare organizations, and other not-for-profit organizations. Prerequisite: ACCT 311.

361 - Intermediate Managerial/Cost Accounting (3 S.H.)
Cost accounting fundamentals including long-term planning, control, cost allocation, quantitative analysis and behavioral considerations in systems design. Prerequisites: ACCT 212 and ECON 201.

380 - Topics and Issues in Accounting (1-4 S.H.)
An analysis of current topics, trends, issues, and software relevant to the milieu of accounting. The subject matter can vary by semester and is typically announced in advance by the instructor. This course may be repeated as topics change. Prerequisite: instructor's permission. Not offered every year.

398 - Internship (1-7 S.H.)
Credits are not counted in the accounting major; they are counted as general elective credits. Prerequisite: Concurrent enrollment in ACCT 399. P/NC only.

413 - Advanced Financial Accounting (3 S.H.)
This course includes the study of business combinations resulting from acquisitions of assets of stock, foreign currency transactions, and partnership accounting. Prerequisite: ACCT 312.

414 - Advanced Financial Accounting Topics (3 S.H.)
A study of selected financial accounting topics including SEC regulations, bankruptcy, trusts and estates, reporting for segments and interim financial periods, and branch accounting. Prerequisite: ACCT 312. Not offered every year.

416 - Accounting Theory (3 S.H.)
A study of the foundations, statements, analyses, and evolution of the various accounting theories including those by the FASB, AICPA, AAA, IMA, and other organizations. A review of the research studies and literature relating to accounting theory and principles during the past 100 years. Prerequisite: ACCT 312. Not offered every year.

421 - Introduction to Taxation (3 S.H.)
A study of the history of taxation, the formation and application of federal tax law, and the basic methods and procedures of tax research. The course emphasizes the individual income tax, but also introduces the student to the taxes applicable to other entities. Tax preparation using the computer is also a significant component of the course. Prerequisites: ACCT 212 and ECON 202. Grade only.

422 - Advanced Taxation (3 S.H.)
A study of the federal tax law applicable to C corporations, S corporations, partnerships, estates, and trusts. In addition to income tax law, the course also addresses the major issues relating to the transfer of property through gifts and the estate. Methods and procedures of tax research also are stressed in the course. Prerequisite: ACCT 421. Grade only. Offered yearly.

423 - Tax Planning (3 S.H.)
This survey course provides an overview of the tax laws and their interrelationships in a way that has proven interesting, enlightening, and profitable to taxpayers, managers, tax planners, and defenders. Prerequisite: ACCT 421 or instructor's permission. Not offered every year.

424 - International Taxation (3 S.H.)
This course focuses on the complex tax issues involved in transnational transactions. It addresses major tax treaties, jurisdictional issues, problems of tracing income flow, fluctuations in currency valuations, and other pertinent subject matter. Prerequisite: ECON 202. Not offered every year.

462 - Advanced Managerial/Cost Accounting (3 S.H.)
An in-depth study of advanced topics in cost planning and control. A review of cost and managerial accounting literature and research. Prerequisite: ACCT 361. Offered yearly.

471 - Auditing (3 S.H.)
This course provides an introduction to financial statement auditing and an exposure to internal, governmental, operational, and fraud auditing. Topics include audit evidence, audit standards, audit procedures, professional ethics, fraud detection, and audit reports. Current issues facing the auditing profession are addressed. Prerequisites: ACCT 312, BUSA 220, and ACCT 330 (past or concurrent enrollment).

472 - Advanced Auditing (3 S.H.)
This course is primarily for students planning to pursue careers in auditing and taking the CPA or CIA exam. Additional exposure to fraud detection and audit procedures is provided. Other topics include statistical sampling methods, legal liability, professional responsibilities, audit reporting topics, and other assurance services offered by CPA firms. Prerequisite: ACCT 471. Not offered every year.

490 - Independent Studies in Accounting (1-3 S.H.)
Offers the advanced student an opportunity to do additional reading and/or research in areas of special interest. Prerequisite: Instructor's permission. Total credits may not exceed 6 S.H.

*Additional Requirements* course as defined in Item 3, page 18
ART
Watkins Hall, Room 204 (507-457-5395)
www.winona.edu/art
Anne Plummer (Chairperson)

FACULTY
Vittoria Colaizzi, Assistant Professor; B.A., Mary Washington College, Fredericksburg, VA; M.F.A., Virginia Commonwealth University, Richmond, Ph.D., Virginia Commonwealth University; 2007 –
Seho Park, Professor; M.A.T., Whitworth College; M.F.A., Ph.D., University of Minnesota-Twin Cities; 1988 -
Anne Scott Plummer, Professor; B.F.A., Rhode Island School of Design; M.F.A., Claremont Graduate School; 1990 -
Don L. Schmidlapp, Professor; B.F.A., University of Kansas; M.F.A., Indiana University; 1981 -

PURPOSE
The Department of Art offers the Bachelor of Arts degree with options in Studio Art or Graphic Design and the Bachelor of Science degree in Art Education for K–12 teachers. Through a combination of studio and art history courses, art majors build cognitive skills and develop critical thinking, while engaging in the inherently creative activities of the art process. Majors acquire interrelated skills in visual perception, creative problem-solving, and critical thinking, all of which complement the objectives of a broad, liberal arts education. Majors and minors study the history of art, focusing on great achievements of the human spirit—both past and present—as well as the various criteria by which they are evaluated. Studio majors develop expertise in specific media areas such as painting, drawing, sculpture, ceramics, or printmaking. Graphic designers use their laptop computers and graphic design software for print and web-based visual communication. In addition to their classes taken in the Department of Education, Art Education majors pursue a broad range of experiences in a variety of media to prepare them for K–12 Minnesota teacher certification.

During their first two years, students complete the required series of foundation courses. At the advanced level, studio classes in specialized media offer more intensive experiences, in consideration of the student’s capabilities and interests. Each successive course in a medium builds upon earlier achievements; instruction becomes more individualized as students search for more personal means of expression.

Studio and classroom instruction at all levels is enhanced by a changing series of exhibitions in the Paul Watkins Gallery and the Weber (student) Gallery, and by presentations from visiting artists and guest lecturers. Majors and minors, as well as interested non–majors, are urged to join the regularly scheduled field trips to art museums and galleries in nearby cities, which are organized by both faculty and the student Art Club.

CAREER OPPORTUNITIES
Grounded in the liberal arts, the art curriculum prepares graduates for a variety of career paths. Some studio majors continue their education, seeking advanced degrees to become professional artists and college level educators. Others find employment in art centers, galleries, and in businesses requiring art skills. Graphic design graduates pursue careers in business and in public and nonprofit sectors, developing visual strategies for designing marketing materials, business presentations, publications, websites, and more. Teaching majors, prepared for K–12 licensure, are employed by school districts throughout the state of Minnesota and the region.

ART STUDENT HANDBOOK
The Art Student Handbook, which supports the advising process, contains information vital to the successful study of art at WSU. Among other items, the Handbook includes suggested course registration programs for each of the three art degree programs/options for each semester leading to graduation, course prerequisites, the Junior Portfolio Review, scholarships, and Senior Exhibitions. Students should get a copy of the handbook from the Art Department office.

FALL ORIENTATION MEETING
All new entering students, including transfer students, are expected to attend this very important meeting held annually. New students get acquainted with their peers, teachers, and advisors and learn more about the material covered in the Art Student Handbook and this catalog.

ADVISING
The department’s advising program is designed to ensure that majors properly fulfill the requirements of their degree programs in addition to other departmental obligations. Therefore, art majors meet regularly with the advisors assigned to them. Art studio minors may seek advice from any art faculty member; art history minors should consult with Dr. Colaizzi.

PRIORITY REGISTRATION
Because of limited space and the great demand for art classes, registration for virtually all art courses is by permission only. Just prior to the University online registration period each semester, the Art Department holds Priority Registration meetings that all advisors, majors, and minors attend. At that time, with an advisor’s approval, students are granted electronic permission to register for art classes when their registration “window” opens. Minors meet with an art faculty advisor as described above.

FRESHMEN COHORT GROUP
Each fall semester, a cohort of freshmen art majors, including newly declared majors and transfer students, is established for those who wish to intensify their progress in art. This opportunity is available on a first-come, first-served basis. During the first semester, majors forming the cohort register in designated sections of ART 114, 2-D Design; ART 118, Drawing I; and ART 221, Art History I. Cohort students must register in all three classes concurrently. In the spring semester, the same group registers in ART 115, 3-D Design; ART 118, Drawing II; and ART 222, Art History II.

ART SCHOLARSHIPS
The Art Department awards a number of scholarships to majors in all three of its degree programs each year. All majors, including incoming students, are urged to apply. The scholarships include the Ruth Severud Fish, E. L. King, Thomas E. Mauszycki, Floretta Murray, Dorothy and Mo Weber, Max Weber, and Winona National Bank awards. Some of these awards require minimum GPAs; the Fish, King, and Murray awards are limited to teaching majors. First-year students, sophomores, juniors, and seniors are eligible. Award amounts range from $400 to $1000, and most are renewable.

The Art Department faculty makes the awards on the basis of portfolio reviews. Successful applicants may receive more than one award.

TRANSFER STUDENTS
Art majors transferring from other institutions must complete a minimum of 15 semester credit hours in art in residence at WSU at the upper-division (300/400-level classes).
GRADUATION REQUIREMENTS

For a checklist of the University’s graduation requirements, see page 23. Specific requirements for art majors/minors are as follows:

- B.A. students must earn a minimum grade of “C” in each studio art course and have a GPA of 2.50 in all studio and art history courses and a 2.50 overall GPA.
- Teaching majors in the B.S. program must maintain a 2.75 overall GPA and a 2.75 GPA in all art education, studio, and art history courses.

JUNIOR PORTFOLIO REVIEW

During their third year of study, art majors in all three programs are required to submit for review a group of works completed at that point. This provides the art faculty with a means of assessing the effectiveness of the curriculum. Secondly, it gives majors the benefits of an all-faculty evaluation irrespective of performance in individual classes, thus guiding them in their progress during their senior year. For more specific information about this requirement, majors should consult the Art Student Handbook with their advisors.

SENIOR EXHIBITIONS

Capstone exhibitions featuring the accomplishments of graduating seniors in all three programs are held in the Watkins and Weber galleries each year. Several shows are devoted to works of all graduating seniors; the Select Senior exhibitions highlight the efforts of students chosen competitively by the faculty on the basis of superior achievement. Select Senior exhibitions consist of two- or three-person shows, allowing participants to exhibit a larger number of works than in the all-senior shows.

PASS/NO CREDIT (P/NC) COURSES

Except for internships and practica, students must take all courses in their major, minor, concentrations, and licensures on a grade-only basis. The P/NC option is available to students who are not art majors or minors; these students may elect the P/NC option for all 100-level art courses and for other courses as specified in the course descriptions. Courses offered on a pass/no credit-only or grade-only basis are so designated in the course descriptions. (All prerequisites must be met before a student enrolls in a particular course.)

UNIVERSITY STUDIES FLAG REQUIREMENTS

Students may use flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student’s major or minor program. The Art Department offers the following flag courses in the University Studies Program (see “Overview of University Studies Components” on page 19):

<table>
<thead>
<tr>
<th>FLAG</th>
<th>Writing</th>
<th>Printmaking: 330 (3) and 430 (3)</th>
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<tbody>
<tr>
<td>Oral</td>
<td>ART 365 Graphic Design IV (3)</td>
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<tr>
<td>Math/Critical Analysis</td>
<td>ART 435 Italian Renaissance Art (3)</td>
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</tr>
<tr>
<td>ART 360 Graphic Design III (3)</td>
<td>ART 437 Nineteenth Century Art (3)</td>
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<td>ART 417 Advanced Painting (3)</td>
<td>ART 438 Early Twentieth Century Art (3)</td>
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<td>ART 418 Advance Drawing II (3)</td>
<td>ART 439 Later Twentieth Century Art (3)</td>
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<td>ART 420 Ceramics II (3)</td>
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<td>ART 428 Advanced Sculpture (3)</td>
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B.A. MAJOR - STUDIO ART OPTION (ARTS)

48 S.H. (No Minor Required)

PURPOSE

The Studio Art Option offers training in the fine arts—painting, sculpture, ceramics, and printmaking—within the context of a broadly based liberal arts education.

REQUIRED ART COURSES (30 S.H.)

<table>
<thead>
<tr>
<th>Course Code</th>
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<tr>
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<td>2-D Design</td>
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<td>115</td>
<td>3-D Design</td>
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<tr>
<td>118</td>
<td>Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>217</td>
<td>Painting I</td>
<td>3</td>
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<tr>
<td>218</td>
<td>Drawing II</td>
<td>3</td>
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<tr>
<td>221</td>
<td>Art History I</td>
<td>3</td>
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<tr>
<td>222</td>
<td>Art History II</td>
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<td>228</td>
<td>Sculpture I</td>
<td>3</td>
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<tr>
<td>439</td>
<td>Later Twentieth Century Art (3)</td>
<td>3</td>
</tr>
<tr>
<td>444</td>
<td>Senior Seminar</td>
<td>3</td>
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</table>

ART HISTORY ELECTIVES (3-9 S.H.)

One 400-level art history course beyond the required ART 439 (3 S.H.):

- ART 435 Italian Renaissance (3) OR
- ART 437 Nineteenth Century Art (3) OR
- ART 438 Early Twentieth Century Art (3)

Note: Majors may take any two art history classes in place of one studio sequence. These two classes must be above the 100-level and exclusive of the required ART 439 and the chosen upper-division art history elective (6 S.H.)

STUDIO ELECTIVES (9-15 S.H.)

Two-course sequences in two areas of concentration as follows (12 S.H.):

<table>
<thead>
<tr>
<th>Area</th>
<th>Course Code</th>
<th>Course Title</th>
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<td>417 (3)</td>
<td>OR</td>
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<td>418 (3)</td>
<td>OR</td>
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<td>Ceramics</td>
<td>320 (3)</td>
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<td></td>
<td>428 (3)</td>
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</table>

*(Additional Requirements) course as defined in Item 3, page 18*
REQUIRED CORE COURSES (66 S.H.)

**Art (45 S.H.)**
- ART 114 2-D Design (3)
- ART 115 3-D Design (3)
- ART 118 Drawing I (3)
- ART 218 Drawing II (3)
- ART 221 Art History I (3)
- ART 222 Art History II (3)
- ART 260 Graphic Design I (3)
- ART 265 Graphic Design II (3)
- ART 360 Graphic Design III (3)
- ART 365 Graphic Design IV (3)
- ART 439 Later Twentieth Century Art (3)
- ART 460 Graphic Design Capstone (3)

**Art Studio Elective (3 S.H.)**
- ART 217 Painting I (3) OR ART 330 Printmaking I (3)

**Mass Communication (9 S.H.)**
- MCOM 210 Visual Communication (3)
- MCOM 215 Photocommunication (3)
- MCOM 260 Advertising (3)

**Marketing (6 S.H.)**
- MKTG 300 Principles of Marketing (3)
- MKTG 329 Sports Marketing (3) OR MKTG 333 Topics in Marketing (3) OR MKTG 341 E-Commerce (3)

**Communication Studies (3 S.H.)**
- CMST 266 Professional Communication Skills (3)

**Computer Science (3 S.H.)**
- CS 116 Web Technology (3)

**Internship (3 S.H.)**
- ART 399 Graphic Design Internship (3)

*Note: Majors who are unable to obtain an internship must substitute either:
- MGMT 315 Principles of Management (3) OR MGMT 325 Organization Dynamics (3)*

**ELECTIVE (3 S.H.)**
- ENG 120 Introduction to Literature (3) OR ENG 211 Writing in Communities (3) OR ENG 221 Topics World Literature (3) OR ENG 222 Introduction to Creative Writing

**B. S. MAJOR - ART (Teaching) (ARTT)**
128 total S.H. No Minor Required

**PURPOSE**
The teaching program prepares graduates for Minnesota certification in art (K-12) and is offered in conjunction with the College of Education. Teaching majors must take all courses in the art (K-12) Professional Education Sequence in addition to courses in the content area. For an up-to-date list of the professional education courses, majors should consult the WSU Teacher Education Student Handbook. Information is also available on the Education Advising website at www.winona.edu/education/advising.

**OVERVIEW OF REQUIREMENTS FOR THE B.S. IN ART TEACHING:**
- University Studies Requirements: 48 S.H.
- Art and Art Education Requirements: 51 S.H.
- Professional Education Sequence: 25 S.H. (in addition to 13 S.H. included in the University Studies Requirements)
- University Electives: 4 S.H.

**REQUIRED UNIVERSITY STUDIES COURSES (48 S.H.)**
*Note: This requirement includes 13 S.H. of Professional Education Sequence courses, which also satisfy University Studies requirements. These courses are identified with an asterisk (*) below.*

**Basic Skills (13 S.H.)**
- ENG 111 (4), CMST 191 (3), and MATH 100 (3)
- Physical Development and Wellness (3) may be fulfilled by HERS 204* (3)

**Arts and Sciences Core (23 S.H.)**
- Humanities (6) fulfilled by classes other than ART 221 and ART 222
- Natural Science (7) including one lab
- Social Science (7) fulfilled by SPED 400* (3) and EDUC 305* (4)
- Fine and Performing Arts (3) fulfilled by a class other than ART 110

**Unity and Diversity (12 S.H.)**
- Critical Analysis (3); Science and Social Policy (3) and Global or Multicultural Perspectives (3) fulfilled by EDUC 308*; Contemporary Citizenship or Democratic Institutions (3)

**PROFESSIONAL EDUCATION SEQUENCE (25 S.H.)**

See Note above regarding 13 S.H. of required courses that satisfy both the Professional Education Sequence and University Studies requirements.

*Notes:*
1. These courses require formal admission to the teacher education program. (See page 19, “Admission to the WSU Teacher Education Program.”
2. The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

**REQUIRED ART AND ART EDUCATION COURSES (45 S.H.)**
- 114 2-D Design (3)
- 115 3-D Design (3)
- 118 Drawing I (3)
- 217 Painting I (3)
- 218 Drawing II (3)
- 221 Art History I (3)
- 222 Art History II (3)
- 228 Sculpture I (3)
- 300 Elementary Art Education (3)
- 320 Ceramics I (3)
- 402 Psychology of Art and Art Education (3)
- 410 Secondary Art Education (3)
- 439 Later Twentieth Century Art (3)
- 444 Senior Seminar (3)

**ART ELECTIVES (6 S.H.)**
Choose one of the following two-course sequences (6 S.H.):
- Painting: 317 (3) and 417 (3)
- Drawing: 318 (3) and 418 (3)
- Ceramics: 320 (3) and 420 (3)
- Sculpture: 328 (3) and 428 (3)
- Printmaking: 330 (3) and 430 (3)

**UNIVERSITY ELECTIVES (4 S.H.)**

**B.A. MINOR - STUDIO ART (ARTS)**
21 S.H.

**REQUIRED ART COURSES (12 S.H.)**
- 109 Introduction to Art (3)
- 114 2-D Design (3)
- 115 3-D Design (3)
- 118 Drawing I (3)

**ART ELECTIVES (9 S.H.)**
With the exception of graphic design courses, students pursuing the minor may choose any art or art history course above ART 110 to complete the nine semester hours, provided prerequisites are met.

**B.A. MINOR - HISTORY OF ART (ARTH)**
24 S.H.

The History of Art minor is a program of study with an emphasis on the major art trends and movements of the modern and contemporary periods in 19th and 20th century Europe and America in addition to various critical methods of approaching and evaluating art. Courses explore the visual culture that helped shape our contemporary world; they also acquaint students with the research skills of the art historian, both in terms of written material and the critical visual tools required to decipher images and objects.
REQUered ART COURSES (12 S.H.)

221  Art History I (3)
222  Art History II (3)
224  American Art (3)
≥ 439  Later Twentieth Century Art (3)

ELECTIVES (12 S.H.)

At least two of the following three courses (6-9 S.H.)

≥ ART 435  Italian Renaissance Art (3)
≥ ART 437  Nineteenth Century Art (3)
≥ ART 438  Early Twentieth Century Art (3)

The remaining elective(s) are to be chosen from two of the following groups (3-6 S.H.)

ART 433  Independent Study (in art history) (3)
No more than one of the following studio courses:
ART 114  2-D Design (3)
ART 115  3-D Design (3)
ART 118  Drawing I (3)
No more than one of the following recommended or cognate courses:
ENG 223  Classical Mythology (3)
ENG 224  The Bible as Literature (3)
ENG 225  Topics in Literature (3)
ENG 304  Victorian and post-Civil War Literature (3)
ENG 305  Modernism and Beyond (3)
* HIST 120  Western Civilization to 1500 (3)
* HIST 121  Western Civilization 1500-1815 (3)
* HIST 122  Western Civilization 1815 to Present (3)
HIST 125  Classical History (3)
* HIST 150  United States History to 1865 (3)
* HIST 151  United States History since 1865 (3)
* PHIL 110  Critical Thinking (3)
PHIL 120  Introductory Philosophy (3)
PHIL 270  Philosophy of Religion (3)
PHIL 280  Philosophy of Art (3)
PHIL 301  Early Modern Philosophy (3)
PHIL 302  Contemporary Philosophy (3)

Course Descriptions (ArT)

109 - Introduction to Art (3 S.H.)
Introductory course for the non-major that investigates the forms, expressive languages, functions, and contexts of the visual arts. Non-chronological, thematic presentations explore cultural values and differences involving Western and some non-Western regions along with issues of representing gender, race, and ethnicity.

110 - Experiencing Art (3 S.H.)
Introductory course for the non-major that includes an experiential, art-making component. Elements of art and principles of design, materials and techniques, and issues of content and expression are investigated in a non-chronological and contemporary context.

114 - 2-D Design (3 S.H.)
Introduction to fundamental design concepts in the art process. Experiments and problems in abstract compositions.

115 - 3-D Design (3 S.H.)
Foundation experience in manipulating materials in three-dimensional space. Broad range of basic materials, tools, and techniques used to solve problems in creating objects and spaces.

117 - Drawing for the Sciences (3 S.H.)
An interdisciplinary course combining the art of drawing with science content. Students will acquire basic skills in drawing aimed at scientific study, preparing them for visual investigation in the classroom, the laboratory, and the field. This class develops visual perception, aesthetic judgment, and sound studio practice. Recommended for non-art majors.

118 - Drawing I (3 S.H.)
An examination of fundamental concepts in the art of drawing, while students acquire basic studio skills. This course develops visual perception, aesthetic judgment and sound studio practice. May include work from the nude model.

120 - Introduction to Ceramics (3 S.H.)
An introduction to basic ceramic techniques for art minors, B. S. art teaching majors, and non-art majors.

128 - Introduction to Sculpture (3 S.H.)
An introduction to basic sculpture techniques for art minors and non-art majors.

130 - Introduction to Printmaking (3 S.H.)
An introduction to basic printmaking techniques for art minors and non-art majors.

135 - Introduction to Watercolor (3 S.H.)
Painting with watercolor and other water-soluble materials, used alone or in combination. Prerequisites: ART 114 and ART 118 or instructor's permission.

217 - Painting I (3 S.H.)
Beginning studio practice in oil and/or acrylic media. Students explore basic problems of form and space on a two-dimensional surface using traditional and contemporary methods. Visual analysis of historic and contemporary work is employed extensively in this course and is designed to broaden and facilitate the examination of form and technique in painting. Prerequisites: ART 114 and ART 118.

218 - Drawing II (3 S.H.)
Continued experience in drawing in a variety of media with emphasis upon thematic problems and on the human figure, including the nude model. Prerequisite: ART 118. Grade only.

221 - Art History I (3 S.H.)
The first of two courses in a year-long survey of the history of art, beginning with the Prehistoric Era and continuing through Antiquity and the Middle Ages. Emphasis on the formal and cultural foundations of Western Art. Grade only.

222 - Art History II (3 S.H.)
The second half of the year-long survey of the history of art extends from the Renaissance period through the modern age. The survey concludes with developments just prior to World War II. Prerequisite: ART 221. Grade only.

224 - American Art (3 S.H.)
Survey of the visual arts in the United States from the Colonial Era through the Great Depression. Emphasis on the emergence and evolution of American art traditions as indicative of national experience. Grade only.

228 - Sculpture I (3 S.H.)
Introduction to sculpture for art majors and minors. Modeling, carving, fabrication, and/or casting techniques used to explore abstract sculptural form as well as forms from nature and the model. Sculptural ideas investigated with the aid of slides, lectures, demonstrations, and critiques. Prerequisite: ART 115. Grade only.

252 - Survey of Women Artists (3 S.H.)
Lecture/discussion course surveying the history of European and American women artists from the 12th century to the present. Social and cultural environments for women in each era are considered, as well as individual artist's contributions to the history of art. A research paper is required. Core disciplinary course for women's and gender studies minor. Grade only.

260 - Graphic Design I (3 S.H.)
This course introduces students to current digital drawing practices and fundamental, conceptual design theory. In a series of exercises, students explore the creation of visual responses to solve visual problems. They acquire skills in illustration and design theory, using a Macintosh computer and graphic software. Prerequisites: ART 114 and ART 218. Grade only.

265 - Graphic Design II (3 S.H.)
This course introduces students to the design process of page layout and typographic usages. The course emphasizes layout design software, principles of layout design, paragraph styles, grid systems, desktop publishing skills, letterforms, and typefaces used in publishing and design. Prerequisites: ART 218 and ART 260. Grade only.

300 - Elementary Art Education (3 S.H.)
Theories, processes, and philosophy in visual arts education for prospective elementary classroom teachers are explored; experience with art processes and classroom procedures to develop potential teachers' artistic sensibilities, skills, and thinking. Prerequisites: ART 109 strongly recommended; junior or senior standing. Student must be admitted to teacher education program in order to register. Grade only.

317 - Painting II (3 S.H.)
Continued intensive studio practice in oil and/or acrylic media; designed to expand and develop the student's skill and understanding in working with representational and abstract problems of form. Students are encouraged to integrate work in an individual direction and to engage in an ongoing study of relevant historic and contemporary painting, including emerging trends. Prerequisite: ART 217 or instructor's permission. P/NC option.

318 - Advanced Drawing I (3 S.H.)
Extensive studio practice in figure drawing. Emphasis in acquiring formal and technical proficiency using the drawing media. Development of the student's personal direction and expression through these media. Prerequisite: ART 218.

320 - Ceramics I (3 S.H.)
Introduction to ceramics with an emphasis on clay materials and on hand building and wheel throwing techniques. Vessel and sculptural concepts are explored with the aid of slides, lectures, demonstrations, and critiques. Prerequisite: ART 115.

328 - Sculpture II (3 S.H.)
Fabrication and/or casting techniques are practiced. Students build on previous skills and identify personal aesthetic concerns. Formal and conceptual sculptural issues are explored with the aid of slides, discussions, and critiques. Prerequisite: ART 228. Grade only.

* "Additional Requirements" course as defined in Item 3, page 18
330 - Printmaking I (3 S.H.)
Introduction to printmaking processes and the creation of "multiple" images. Experimental techniques, conceptualization, and studio practice are emphasized. Prerequisites: ART 114 and ART 118. Grade only.

360 - Graphic Design III (3 S.H.)
An introduction to basic digital imaging practices emphasizing fundamental skills, concepts, and creative thinking in a series of problem solving exercises. Student explorations will involve the integration of digital-imaging software with photographic capture, manipulation, enhancement, and application of images with type and page layout. Prerequisite: ART 265. Grade only.

365 - Graphic Design IV (3 S.H.)
An introduction to basic digital techniques emphasizing fundamental skills, concepts, and creative processes as applied to interactive media. Student explorations will involve the integration of WYSIWYG software, incorporating digital imagery, scripting, typography, and other design elements of interactive media as well as the architectural structures for information. Prerequisite: ART 360. Grade only.

399 - Internship (1-3 S.H.)
Work-related experience in appropriate settings such as museums, art centers, commercial offices or studios, and public relations offices. Credit hours to be arranged by a faculty member. May be used as a general art elective. Prerequisite: Junior or senior standing. May be repeated up to a maximum of 9 credits.

402 - The Psychology of Art and Art Education (3 S.H.)
Exploration of topics related to human behavior and the production and appreciation of visual art forms. The prospective art teachers' understanding of the subject of art and effective instruction for K-12 learners are further concerns. Theories of perception, learning, and the creative processes are examined as they pertain to visual thinking, aesthetic perception and judgment, artistic motivation, art concept learning, formal and semantic organization, artistic styles, cognitive development, instructional strategies, art teacher-learner dynamics, learning environment, and the evaluation of learning and process with media in studio art. Prerequisites: ART 109 recommended, ART 300, and junior standing. Grade only.

410 - Secondary Art Education (3 S.H.)
An examination of programs in art education at the secondary level. Consideration of curricular and instructional problems related to teaching art in high school, review of research findings and designing exemplary programs in secondary art. Prerequisites: ART 300 and junior standing. Grade only.

412 - Multi-Media Crafts for the Classroom (3 S.H.)
An intensive and extensive art education laboratory experience affording the prospective art teacher familiarity with advanced art studio processes that produce craft outcomes across several media, including contemporary and experimental media. The learning content extends beyond the basic crafts processes introduced in ART 300. Prerequisite: ART 300. Grade only.

417 - Advanced Painting (3 S.H.)
Continued intensive studio practice aimed at formal and technical proficiency in the use of paint. Students work to establish a meaningful direction in their painting, as they begin to identify individual interests concerning form and content. Students engage in an ongoing study of relevant artists' work, stylistic directions of the modern era and other recent trends including combined media. Preparation and exhibition of completed work is addressed at this level. Prerequisite: ART 317. Grade only. May be repeated up to a maximum of 9 credits.

418 - Advanced Drawing II (3 S.H.)
Intensive, individualized studio practice using the drawing media. Further development of the student's personal direction and expression through these media. Prerequisite: ART 318. May be repeated up to a maximum of 9 credits.

420 - Ceramics II (3 S.H.)
Development of the student's personal direction and expression through the ceramic medium. Increased involvement in clay body composition, glaze formulation, and firing techniques. Slides, critiques, and readings in contemporary criticism supplement textbook reading. Prerequisite: ART 320. Grade only. May be repeated up to a maximum of 9 credits.

428 - Advanced Sculpture (3 S.H.)
Personal direction and expression are developed using any appropriate sculptural medium. Slides, critiques, and readings in contemporary criticism contribute to the production of a cohesive body of work. Prerequisite: ART 328. Grade only. May be repeated up to a maximum of 9 credits.

430 - Printmaking II (3 S.H.)
Advanced printmaking processes, using a variety of techniques. Advanced conceptualization and drawing skills are required. Prerequisite: ART 330. May be repeated up to a maximum of 9 credits. Grade only.

433 - Independent Study (1-3 S.H.)
To be arranged with an instructor in studio, art history, or art education. Prerequisites: to be determined by the instructor; junior standing. The permission and signature of the instructor and the departmental stamp is required in order to register. May be repeated up to a maximum of 9 credits.

435 - Italian Renaissance Art (3 S.H.)
The painting and sculpture of Italy from the late Gothic Era to about 1600. The course emphasizes the major school and some of the secondary schools, together with the innovations and achievements of individual masters. A research paper is required. Prerequisite: ART 222. Grade only.

437 - Nineteenth Century Art (3 S.H.)
This course traces the transformations in European and American art beginning with the revolutionary period of the late 18th century. It culminates with the rise of the bourgeoisie and the onset of European modernism in the final decades of the 19th century. A research paper is required. Prerequisite: ART 222. Grade only.

438 - Early Twentieth Century Art (3 S.H.)
The historic period of modernist innovation in Europe between 1900 and the World War I era, including American responses, is examined along with some of the art historical methodologies used in analyzing these works. Concludes with developments up to the outbreak of World War II. A research paper is required. Prerequisite: ART 222. Grade only.

439 - Later Twentieth Century Art (3 S.H.)
Emphasis is placed on post-World War II modernism in the United States and on the increasing internationalism, stylistic pluralism, and post-modernism marking the final quarter of the 20th century. Students will also examine the various critical and methodological approaches taken in the study of late 20th century art. A research paper is required. Prerequisite: ART 222. Grade only.

444 - Senior Art Seminar (3 S.H.)
Students present their concurrent studio projects for critique and also deliver PowerPoint presentations. Other topics include readings and discussion of art criticism and theory and portfolio preparation. Studio projects include photographing artwork and preparing and installing work for the Senior Exhibitions. The Senior Exhibition(s) constitutes the Art major’s capstone experience. Prerequisite: Senior standing; B.A. or B.S. major.

460 - Graphic Design Capstone (3 S.H.)
A continued exploration of advanced graphic design practices with primary emphasis on design theories of conceptual visualization for presentation and self-promotion. Through research, discussions, oral presentations, and practical explorations, students will prepare and finalize solutions for corporate identity, package, and label design. Students will also study readings in design criticism and semiotics, including recent or emerging design trends. This is the final step in the Graphic Design curriculum whereby students create portfolio pieces for their Senior Exhibition(s), which constitutes the department’s capstone experience. Prerequisite: ART 365. Grade only.
ARTS ADMINISTRATION
Performing Arts Center, Room 103 (507-457-2842)
http://www.winona.edu/arts/
_______ (Director)

PURPOSE
As arts organizations become increasingly complex, they will demand knowledgeable, skilled individuals who have an aesthetic sensibility, business acumen, and a keen understanding of current issues and trends relevant to an organization's health, prosperity and, in some cases, survival. Designed primarily, but not exclusively, for students in the performing and visual arts, the minor in Arts Administration will complement students' training as artists, teachers and practitioners, and help lay the foundation for their future participation in arts organizations either as leaders or as participants and supporters.

The Arts Administration minor will:
- Provide skilled individuals for the expanding arts/nonprofit sector whose increasingly complex institutions demand higher levels of sophistication and knowledge from their administrators.
- Promote the interdisciplinary nature of the arts and sciences.
- Encourage students to learn as they work and work as they learn. Through experiential learning opportunities, students will combine academic coursework and hands-on, relevant extracurricular opportunities on campus and in the community to become qualified to work in such areas as marketing, fundraising, operations, and general arts management.
- Build relevant, transferable management and leadership skills for social service agencies, educational institutions, commercial arts industries, and other for-profit and nonprofit sectors.
- Expose students to issues of arts policy, cultural management, emerging technologies, and leadership and organizational development.

B.A. MINOR - ARTS ADMINISTRATION (AAD)
24-27 S.H.

PASS/NO CREDIT (P/NC) COURSES
Students must take all courses in the minor on a grade-only basis.

CORE COURSES – AAD (9 S.H.)
301 The Arts Organization (3)
302 Introduction to Arts Administration (3)
303 Independent Study (3)

REQUIRED COURSES (15-18 S.H.)

College of Liberal Arts Courses
Students majoring or minoring in one of the visual or performing arts (Art, Music, Theatre and Dance) will successfully complete one introductory performing or visual arts course, in a discipline other than their major or minor, from the list below. Students not majoring or minoring in one of the visual or performing arts will successfully complete two courses in the visual or performing arts, but in separate disciplines. Substitution will be permitted only with permission of the Arts Administration Program Director.

ART 109 Introduction to Art (3)
ART 110 Experiencing Art (3)
MUS 109 Introduction to Music (3)
MUS 120 Introduction to Music Theory (3)
THAD 111 Theatre Appreciation (3)
THAD 115 Dance Appreciation (3)

College of Business Courses
ACCT 211 Financial Accounting Principles (3)
BUSA 291 Legal Environment of Business (3)
MKTG 300 Principles of Marketing (3)
MGMT 315 Principles of Management (3) OR
MGMT 325 Organizational Dynamics (3)

COURSE DESCRIPTIONS (AAD)

301 - The Arts Organization (3 S.H.)
This seminar course will present a historic overview of arts and other nonprofit organizations in the United States, and explore current issues and emerging trends in technology, arts and cultural policy, intellectual property rights, career development in the arts sector, and the challenges facing administrative leaders of arts and cultural organizations. Prerequisite: This course is intended for students pursuing a minor in Arts Administration. Others may enroll with approval from the instructor.

302 – Introduction to Arts Administration (3 S.H.)
This course will introduce students to the practical skills required for the successful management of arts organizations. Areas covered will include budgeting, marketing/publicity, fundraising, audience development, analysis of financial statements, contracts, board governance, and issues associated with the founding of a nonprofit organization. Prerequisite: This course is intended for students pursuing a minor in Arts Administration. Others may enroll with approval from the instructor. Students pursuing a minor in Arts Administration must have successfully completed AAD 301.

303 – Independent Study (3 S.H.)
During this experiential learning course, students will be assigned to work with a local arts organization or on a project in support of one of WSU’s visual or performing arts departments. Applying knowledge gained from their coursework, students will receive hands-on experience in such areas as marketing/publicity, budgeting, fundraising, audience development and other areas critical to leaders of arts organizations. Prerequisite: Successful completion of AAD 301 and AAD 302.

* "Additional Requirements" course as defined in Item 3, page 18
Biology

Pasture Hall, Room 220, (507) 457-5270
http://bio.winona.edu

Edward Thompson (Chairperson)
Michael Delong Director, Large River Studies Center
Judith A. Loewen Director, Clinical Laboratory Science
Frances Ragdale Director, Medical Technology
Edward Thompson Director, Cyto technology

FACULTY
Kimberly M. Bates, Professor; B.S., University of Massachusetts-Amherst; M.S., Ph.D., University of Missouri-Columbia; 1997 –
Steven Berg, Professor; B.S., Pacific Lutheran University; Ph.D., Purdue University; 1986 –
Bruno Borsari, Assistant Professor; D.Ag.Sc., University of Bologna (Italy); Ph.D., University of New Orleans; 2005 –
Emmanuel Brako, Professor; B.V.M., University of Nairobi; B.S., Tuskegee University; M.S., Ph.D., Louisiana State University and A & M College; 1989 –
Michael D. Delong, Professor; B.S., University of Southern Mississippi; M.S., Memphis State University (TN); Ph.D., University of Idaho-Moscow; 1992 –
David Einar, Professor; B.S., Ferris State College (MI); M.S., Ph.D., University of Iowa; 1992 –
Kimberly J. Evenson, Professor; B.S., M.S., North Dakota State University, Fargo; Ph.D., University of Minnesota-Twin Cities; 1995 –
Neal Mundahl, Professor; B.A., Vanada State University; M.S., Michigan Technological University; Ph.D., Miami University (Ohio); 1989 –
Frances Ragdale, Professor; B.S. Eastern Oregon State College; M.S., Southeastern Louisiana University; Ph.D., University of Idaho; 1993 –
Lawrence Reuter, Professor; B.A., Saint Mary’s College of Minnesota; Ph.D., Princeton University; 1979 –
Robin K. Richardson, Professor; B.S., Michigan State University; M.S., Central Michigan University; Mt. Pleasant; Ph.D., University of Oklahoma, Norman; 1992 –
Scott B Segal, Assistant Professor; B.S., University of Wisconsin; Ph.D., Northwestern University; 2006 –
Edward Thompson, Professor; B.A., Macalester College, St. Paul; Ph.D., Medical College of Wisconsin, Milwaukee; 1992 –
Edward (Ted) Wilson, Assistant Professor; B.A., Luther College, Decorah, IA; M.S., Ph.D., Iowa State University, Ames; 2004 –

PROGRAMS AND CAREER OPPORTUNITIES

Majors
The Biology Department offers a biology major in which a WSU student may select one of five options: allied health, cell and molecular ecology, environmental science, or life science (teaching). Each of these options leads to a B.S. degree and allows for many career opportunities. Many graduates pursue additional education in disciplines such as biology, biochemistry, medicine, physical therapy, dentistry, and veterinary medicine. Other graduates use the B.S. degree in biology to gain employment in the rapidly expanding field of health care and research or in more traditional areas such as wildlife and environmental management. The life science major prepares students for teaching at the middle school and high school levels.

The Biology Department also offers majors in clinical laboratory science, medical technology, and cyto technology. (See separate program listings under “Clinical Laboratory Science” (page 75), “Medical Technology” (page 158), and “Cyto technology” (page 86). Students interested in the medical technology and cyto technology majors should contact the appropriate program director as soon as possible after arriving on campus.

Minor
For students majoring in other fields, the Biology Department offers a minor (38 S.H.), which includes courses in biology, chemistry, and mathematics. This minor is designed to supplement majors in all fields of study at Winona State University.

Pre-Professional Sequences
The Biology Department sponsors seven pre-professional sequences. These are not degree programs (i.e., major or minor) at WSU; rather these programs are designed to prepare students to pursue an advanced degree at another college or university.

Pre-Dentistry
Pre-Medicine (Allopathic and Osteopathic)
Pre-Optometry
Pre-Physical Therapy
Pre-Physician Assistant
Pre-Podiatry
Pre-Veterinary Medicine

For the specific program requirements, see the “Pre-Professional Sequences” section in this catalog.

GENERAL PROGRAM REQUIREMENTS

Students in all biology majors start with a core set of classes, which includes Basics of Life, Organismal Diversity, General Ecology, Cell Biology, and Genetics. They also take Principles of Chemistry, Organic Chemistry, and an appropriate mathematics class. After these courses are completed, students begin to take coursework that is specific for their chosen options. A year of physics and a capstone research project are required of students majoring in all biology options.

The requirements for the various biology options are not necessarily identical with the requirements for admission to graduate or professional schools. For example, if students plan to attend medical, dental, veterinary, physical therapy, or physician assistant schools or if students plan to pursue a doctorate in the sciences, they should expect to take additional courses in calculus, biochemistry, and molecular biology. Internships are encouraged.

For those interested in a career in veterinary science, the Biology Department sponsors an Honors Program (described below), which allows for a distinguished baccalaureate degree. The Biology Department is also home for the Gamma Delta Chapter of the Beta Beta Beta Biological Honor Society. More information about the Honors Program and “Tri-Beta” is available on the Biology Department website (http://bio.winona.edu).

As noted above, every student graduating with a degree in a biology option is required to complete a capstone research project. This research must be supervised by a member of the biology faculty or someone approved by the Biology Department. Students are encouraged to meet with their advisors to discuss research projects and to identify a research advisor during the second semester of their junior year. Additional information about this capstone requirement is available on the Biology Department website.

PASS/NO CREDIT (P/NC) COURSES

Biol 109, 117, 118, 171, 172, 173, and 400 must be taken for letter grade only. Biology majors and minors must take all required and elective courses for letter grades. Non-biology majors can take biology courses other than BIOL 117, 118, 171, 172, 173, or 400 on a P/NC basis. Courses offered on a “pass/no credit only” or “letter grade only” basis are so designated in the course descriptions.

HONORS IN BIOLOGY PROGRAM

Philosophy
Any science can be described as having two major aspects: (1) an organized body of knowledge and (2) a formal way of adding new information to the existing body of knowledge. Thus, science is related to method and process, and it is not merely a collection of factual information. The Biology Department at
WSU believes that students who desire advanced careers in biology need significant experiences that involve them directly in an intimate and meaningful process of biological inquiry. Together, the Honors Program and the capstone requirement provide this enhanced opportunity to eligible biology majors.

**Student Benefits**

Students participating in the Honors in Biology Program will receive a number of benefits which enhance their academic careers and which improve their likelihood of success in the field of biology. These benefits include:

1. The opportunity for extensive "one-on-one" research direction under one or more Biology Department faculty members. The research activity allows students and faculty to become very well acquainted.
2. The opportunity to have faculty members write highly specific and individual letters of recommendation on behalf of the student. These strong, distinctive letters will greatly improve the student’s chances of acceptance into various graduate, medical, dental, physical therapy, or other training programs. The letters will also improve students’ chances of gaining employment after their college career.
3. The opportunity to practice the process of real biological science. This research opportunity is the mark of a high quality science education at a selective institution.

Students who are admitted into the Honors in Biology Program and successfully complete the process will, upon graduation:

- Have their official transcripts stamped with the words “Graduated with Honors in Biology”
- Have their transcript show the title of their honors thesis
- Have their graduation status (Honors in Biology) indicated on the graduation program

To be eligible for the Honors in Biology Program, a student must:

1. Be a Biology major (any option)
2. Have completed the biology core sequence (Basics of Life, Organismal Diversity, Ecology, Cell Biology and Genetics) or its equivalent as well as Principles of Chemistry and Organic Chemistry
3. Have a 3.25 GPA both overall and within the major
4. Identify a WSU faculty member who is willing to serve as a research advisor to the student
5. Apply for and be granted admission into the Honors in Biology Program by the Biology Honors Committee

**Completion**

To receive Honors in Biology, students must satisfy the following requirements:

1. Complete the Honors in Biology seminar offered in the spring. Honors students graduating at the end of fall semester may satisfy this requirement by giving a seminar in which they describe their honors research to the department in another venue approved by the Honors Committee.
2. Present their research at an extramural research meeting or symposium.
3. Submit a written honors thesis in an appropriate format and style that is approved by both the research advisor and the Biology Honors Committee

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**UNIVERSITY STUDIES FLAG REQUIREMENTS**

Students may use Flag courses, which will usually be in the student’s major or minor program, to satisfy both University Studies and major requirements. The Biology Department offers the following flag courses in the University Studies Program:

**FLAG**

**Oral**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 307</td>
<td>Cell Biology Laboratory (1)</td>
<td></td>
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<tr>
<td>BIOL 309</td>
<td>Developmental Biology (3)</td>
<td></td>
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<tr>
<td>BIOL 315</td>
<td>Environmental Biology (3)</td>
<td></td>
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<tr>
<td>BIOL 409</td>
<td>General Microbiology (4)</td>
<td></td>
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<tr>
<td>BIOL 423</td>
<td>Ecosystem Ecology (3)</td>
<td></td>
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<tr>
<td>BIOL 460</td>
<td>General Parasitology (3)</td>
<td></td>
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<tr>
<td>BIOL 462</td>
<td>Parasitology (4)</td>
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**Math/Critical Analysis**

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<tr>
<th>Course</th>
<th>Title</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td>BIOL 310</td>
<td>Genetics (3)</td>
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**Writing**

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td>BIOL 308</td>
<td>Cell Biology (3)</td>
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<tr>
<td>BIOL 323</td>
<td>General Physiology (5)</td>
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<tr>
<td>BIOL 415</td>
<td>Ecology of Large Rivers (4)</td>
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<tr>
<td>BIOL 431</td>
<td>Molecular Biology Lab (4)</td>
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<tr>
<td>BIOL 445</td>
<td>Immunology (3)</td>
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<tr>
<td>BIOL 499</td>
<td>Capstone Project (1-3)</td>
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</tbody>
</table>

Flag courses that can be used to satisfy biology major/minor requirements are identified in the lists of required courses and electives in this section.

**B.S. MAJOR BIOLOGY - ALLIED HEALTH OPTION (BIAH)**

73 S.H. (No Minor Required)

**BIOLOGY CORE COURSES - BIOL (18 S.H.)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td>241</td>
<td>Basics of Life (4)</td>
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<tr>
<td>242</td>
<td>Organismal Diversity (4)</td>
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<tr>
<td>312</td>
<td>General Ecology (3)</td>
<td></td>
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<tr>
<td>308</td>
<td>Cell Biology (3)</td>
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<tr>
<td>310</td>
<td>Genetics (3)</td>
<td></td>
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<tr>
<td>307</td>
<td>Cell Biology Laboratory (1) OR</td>
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<tr>
<td>311</td>
<td>Genetics Laboratory (1)</td>
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**ALLIED HEALTH OPTION REQUIREMENTS (8 S.H.)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td>BIOL 201</td>
<td>Human Anatomy (4)</td>
<td></td>
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<tr>
<td>BIOL 323</td>
<td>General Physiology (4)</td>
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</tbody>
</table>

**ALLIED HEALTH OPTION ELECTIVES (18 S.H.)**

Courses totaling 17 semester hours to be chosen from the biology electives listed on page 61.

**BIOLOGY CAPSTONE REQUIREMENT (3 S.H.)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td>BIOL 499</td>
<td>Capstone Project (1-3)</td>
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</table>

**OTHER REQUIRED COURSES (26 S.H.)**

**Chemistry (12 S.H.)**

- CHEM *212, *213 Principles of Chemistry I, II (8)
- CHEM 340 Organic Chemistry (4)

**Mathematics (6 S.H.)**

- MATH 150 Modeling Using Precalculus and Statistics (3)
- MATH 155 Calculus Based Modeling (3)

**Physics (8 S.H.)**

- PHYS *201, *202 General Physics I, II (8)

**B.S. MAJOR BIOLOGY - CELL AND MOLECULAR OPTION (BICM)**

71 S.H. (No Minor Required)

**BIOLOGY CORE COURSES - BIOL (18 S.H.)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td>241</td>
<td>Basics of Life (4)</td>
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<tr>
<td>242</td>
<td>Organismal Diversity (4)</td>
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<td>General Ecology (3)</td>
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<td>310</td>
<td>Genetics (3)</td>
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<tr>
<td>307</td>
<td>Cell Biology Laboratory (1) OR</td>
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<tr>
<td>311</td>
<td>Genetics Laboratory (1)</td>
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</table>

**CELL AND MOLECULAR OPTION REQUIREMENTS (14-15 S.H.)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Semester Hours</th>
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</thead>
<tbody>
<tr>
<td>CHEM 400</td>
<td>Chemistry (Biochemistry I) (4)</td>
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<tr>
<td>BIOL 430</td>
<td>Molecular Biology (3)</td>
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</tbody>
</table>

* "Additional Requirements" course as defined in Item 3, page 18
Two of the six courses listed below (7-8 S.H.):

- BIOL 309 Developmental Biology (3)
- BIOL 393 Animal Cell Culture (4)
- BIOL 394 Plant Tissue Culture, Principles and Application (4)
- BIOL 409 General Microbiology (4)
- BIOL 431 Molecular Biology Lab (4)
- BIOL 445 Immunology (3)

CELL AND MOLECULAR OPTION ELECTIVES (9-10 S.H.)

Courses totaling 9-10 semester hours to be chosen from the biology electives listed on page 61.

BIOL 425 Animal Behavior (3)
BIOL 424 Biogeography (3)
BIOL 380 Evolution (3)

Note:
- BIOL 394 Plant Tissue Culture, Principles and Application (4)
- BIOL 393 Animal Cell Culture (4)
- BIOL 409 General Microbiology (4)
- BIOL 431 Molecular Biology Lab (4)
- BIOL 445 Immunology (3)

OTHER REQUIRED COURSES (26 S.H.)

Chemistry (12 S.H.)

- CHEM 212, 213 Principles of Chemistry I, II (8)
- CHEM 340 Organic Chemistry (4)

Note: Organic Chemistry 350 and 351 (both must be taken) may be substituted for CHEM 340.

Mathematics (4-6 S.H.)

- MATH 150 Modeling Using Precalculus and Statistics (3)
- MATH 155 Calculus Based Modeling (3)

Note: MATH 150 Calculus Based Modeling (3) may be substituted for CHEM 340.

Physics (8 S.H.)

- PHYS 201, 202 General Physics I, II (8)

Note: University Physics I and II (221, 222) (both must be taken) may be substituted for General Physics I and II (201, 202).

B.S. MAJOR BIOLOGY - ECOTOMY OPTION (BIEC)

71 S.H. (No Minor Required)

BIOL 425 Animal Behavior (3)
BIOL 424 Biogeography (3)
BIOL 380 Evolution (3)

Note:
- BIOL 394 Plant Tissue Culture, Principles and Application (4)
- BIOL 393 Animal Cell Culture (4)
- BIOL 409 General Microbiology (4)
- BIOL 431 Molecular Biology Lab (4)
- BIOL 445 Immunology (3)

OTHER REQUIRED COURSES (26 S.H.)

Chemistry (12 S.H.)

- CHEM 212, 213 Principles of Chemistry I, II (8)
- CHEM 340 Organic Chemistry (4)

Note: Organic Chemistry 350 and 351 (both must be taken) may be substituted for CHEM 340.

Mathematics (4-6 S.H.)

- MATH 150 Modeling Using Precalculus and Statistics (3)
- MATH 155 Calculus Based Modeling (3)

Note: MATH 150 Calculus Based Modeling (3) may be substituted for CHEM 340.

Physics (8 S.H.)

- PHYS 201, 202 General Physics I, II (8)

Note: University Physics I and II (221, 222) (both must be taken) may be substituted for General Physics I and II (201, 202).

B.S. MAJOR BIOLOGY - ENVIRONMENTAL SCIENCE OPTION (BIES)

124 S.H. (No Minor Required)

UNIVERSITY STUDIES COURSES (30 S.H.)

A number of courses required by the biology-environmental science option also satisfy requirements of the University Studies Program. Students should consult with their academic advisor for more information.

BIOLOGY CORE COURSES - BIOL (18 S.H.)

241 Basics of Life (4)
242 Organismal Diversity (4)
312 General Ecology (3)
313 General Ecology Laboratory (1)
308 Cell Biology (3)
310 Genetics (3)

Note: BIOL 241 and 242 should be taken prior to BIOL 312, 313, 308 and 310. BIOL 312 should be taken prior to or concurrently with BIOL 313.

ECOLOGY OPTION REQUIREMENTS (10-11 S.H.)

At least one course must be completed from each of the following three groups:

Group A - Organismal/Systematic Ecology

- BIOL 303 Biology of Algae and Fungi (4)
- BIOL 318 Invertebrate Zoology (4)
- BIOL 319 Vertebrate Biology (4)
- BIOL 320 Ornithology (4)
- BIOL 350 Plant Taxonomy (4)
- BIOL 360 Entomology (4)

Group B - Field and Quantitative Techniques

- BIOL 335 Plant Ecology (4)
- BIOL 415 Ecology of Large Rivers (4)
- BIOL 420 Limnology (4)
- STAT 305 Biometry (3)

Group C - Principles and Processes

- BIOL 315 Environmental Biology (3)
- BIOL 380 Evolution (3)
- BIOL 423 Ecosystem Ecology (3)
- BIOL 424 Biogeography (3)
- BIOL 425 Animal Behavior (3)

ECOLOGY OPTION ELECTIVES (13-14 S.H.)

Courses may be chosen from the biology electives listed on page 61. The required and elective option courses must total 24 S.H.

BIOL CAPSTONE REQUIREMENT (3 S.H.)

- BIOL 499 Capstone Project (1-3)

BIOLOGY CAPSTONE REQUIREMENT (3 S.H.)

- BIOL 499 Capstone Project (1-3)

OTHER REQUIRED COURSES (54-55 S.H.)

Chemistry (16 S.H.)

- CHEM 212, 213 Principles of Chemistry I, II (8)
- CHEM 320 Environmental Chemistry (4)
- CHEM 340 Organic Chemistry Survey (4)

Note: Organic Chemistry 350 and 351 (both must be taken) may be substituted for CHEM 340.

Geoscience (12 S.H.)

- GEOS 120 Dynamic Earth (4)
- GEOS 130 Earth and Life through Time (4)
- GEOS 240 Watershed Science (4)

Mathematics (9 S.H.)

- MATH 150 Modeling Using Precalculus and Statistics (3)
- MATH 155 Calculus Based Modeling (3)
- STAT 305 Biometry (3)

Note: Calculus I, II (MATH 160, 165) (both must be taken) may be substituted for MATH 150 and MATH 155.

Other Required Courses (54-55 S.H.)

- CHEM *212, *213 Principles of Chemistry I, II (8)
- CHEM 320 Environmental Chemistry (4)
- CHEM 340 Organic Chemistry Survey (4)

Note: Organic Chemistry 350 and 351 (both must be taken) may be substituted for CHEM 340.

ECOLOGY OPTION ELECTIVES - BIOL (7 S.H.)

Courses totaling 7 S.H. to be chosen from:

- BIOL 303 Biology of Algae and Fungi (4)
- BIOL 318 Invertebrate Zoology (4)
- BIOL 319 Vertebrate Biology (4)
- BIOL 320 Ornithology (4)
- BIOL 335 Plant Ecology (4)
- BIOL 350 Plant Taxonomy (4)
- BIOL 360 Entomology (4)
- BIOL 415 Ecology of Large Rivers (4)
- BIOL 420 Limnology (4)
- BIOL 423 Ecosystem Ecology (3)
- BIOL 424 Biogeography (3)
- BIOL 425 Animal Behavior (3)

BIOLOGY CAPSTONE REQUIREMENT (3 S.H.)

- BIOL 499 Capstone Project (1-3)

OTHER REQUIRED COURSES (54-55 S.H.)

Chemistry (16 S.H.)

- CHEM 212, 213 Principles of Chemistry I, II (8)
- CHEM 320 Environmental Chemistry (4)
- CHEM 340 Organic Chemistry Survey (4)

Note: Organic Chemistry 350 and 351 (both must be taken) may be substituted for CHEM 340.

Geoscience (12 S.H.)

- GEOS 120 Dynamic Earth (4)
- GEOS 130 Earth and Life through Time (4)
- GEOS 240 Watershed Science (4)

Mathematics (9 S.H.)

- MATH 150 Modeling Using Precalculus and Statistics (3)
- MATH 155 Calculus Based Modeling (3)
- STAT 305 Biometry (3)

Note: Calculus I, II (MATH 160, 165) (both must be taken) may be substituted for MATH 150 and MATH 155.
Physics (8 S.H.)
PHYS "201, *202 General Physics I, II (8)
Note: University Physics I & II (*221, *222) (both must be taken) may be substituted for General Physics I, II (201, 202).

Both of the following courses (6 S.H.)
ECON 315 Environmental and Natural Resources (3)
POLS 340 Environmental Policy (3)

One of the following six courses (3-4 S.H.)
Chemistry
CHEM 425 Analytical Chemistry I (4)
CHEM 435 Topics in Environmental Chemistry (3)

Geoscience
GEOS 310 Non-Renewable Natural Resources (3)
GEOS 315 Surficial Processes and Soils (4)
GEOS 325 Environmental Geoscience (3)
GEOS 420 Applied Hydrogeology (4)

B.S. MAJOR - LIFE SCIENCE (Teaching) (BLST)
128 S.H. (No Minor Required)

Notes:
1. The Biology Department, in cooperation with other science departments and the College of Education, is developing a Board of Teaching-appropriate program to better fulfill the needs of 21st century science teachers.
2. Teaching majors must take all courses in the Professional Education Sequence in addition to courses in the content area. Refer to these requirements in the Education section in this catalog (page 90). For more information, refer to the WSU Teacher Education Student Handbook.
3. Students majoring in Biology Life Science must have both a 2.75 overall GPA and 2.50 GPA or higher in the major.

UNIVERSITY STUDIES COURSES (19 S.H.)
A number of courses required by the life science major also satisfy requirements of the University Studies Program. Students should consult with their academic advisor for more information.

BIOLOGY CORE COURSES - BIOL (18 S.H.)
241  Basics of Life (4)
242  Organismal Diversity (4)
312  General Ecology (3)
308  Cell Biology (3)
310  Genetics (3)
307  Cell Biology Laboratory (1) OR
313  Ecology Laboratory (1)
Note: BIOL 241 and 242 should be taken prior to BIOL 312, 313, 307, 308 and 310. BIOL 308 should be taken prior to or concurrently with BIOL 307. BIOL 312 should be taken prior to or concurrently with BIOL 313.

LIFE SCIENCE REQUIREMENTS (6 S.H.)
BIOL 315 Environmental Biology (3)
BIOL 499 Capstone Project (1-3) (This course also satisfies the biology capstone requirement.)

LIFE SCIENCE ELECTIVES - BIOL (9 S.H.)
At least 9 S.H. of approved elective courses to be chosen from the biology electives listed below. It is strongly recommended that the elective requirements be fulfilled from the following courses; students should carefully choose electives with the aid of the life science advisor to ensure broad knowledge and skill in biology:
201  Human Anatomy (4)
303  Biology of Algae and Fungi (4)
314  Plant Physiology (4)
318  Invertebrate Zoology (4)
319  Vertebrate Biology (4)
320  Ornithology (4)
335  Plant Ecology (4)
350  Plant Taxonomy (4)
360  Entomology (4)
409  General Microbiology (4)
441  Comparative Vertebrate Physiology (3)

OTHER REQUIRED COURSES (76 S.H.)
Chemistry (12 S.H.)
CHEM "212, *213 Principles of Chemistry I, II (8)
CHEM 340 Organic Chemistry (4)
Note: Organic Chemistry 350 and 351 (both must be taken) may be substituted for CHEM 340.

Education (38 S.H.)
Notes:
1. These courses require formal admission to the teacher education program. (See page 91, “Admission to the WSU Teacher Education Program.”)
2. The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.
   * EDUC 305 Human Development and Learning: Secondary (4)
   * EDUC 308 Human Relations and Student Diversity (3)
   EDUC 312 Instructional Planning Assessment: Secondary (3)
   EDUC 429 Secondary Reading and Teaching Strategies (4)
   EDUC 449 Middle Level Philosophy, Organization and Interdisciplinary Planning (3)
   EDUC 459 The Professional Educator (3)
   EDUC 465 Student Teaching (12)
Health, Exercise and Rehabilitative Sciences
HERS 204 Personal and Community Health (3)

Special Education
SPED 400 Education of Exceptional Children/Youth (3)

Geoscience (8 S.H.)
* GEOS 120 Dynamic Earth (4)
* GEOS 130 Earth and Life Through Time (4)

Mathematics (6 S.H.)
MATH 150 Modeling Using Precalculus and Statistics (3)
MATH 155 Calculus Based Modeling (3)

Physics (12 S.H.)
PHYS "201, *202 General Physics I, II (8)
PHYS 311 Science Teaching Methods (4)
Note: University Physics I and II (221, 222) (both must be taken) may be substituted for General Physics I and II (201, 202).

B.A. MINOR BIOLOGY (BIOL)
38 S.H.

REQUIRED COURSES (23 S.H.)
Mathematics (3 S.H.)
MATH 150 Modeling Using Precalculus and Statistics (3)
Note: Any higher level math class of at least 3 S.H. may be substituted for MATH 150.

Biology (8 S.H.)
BIOL 241 Basics of Life (4)
BIOL 242 Organismal Diversity (4)

Chemistry (12 S.H.)
* CHEM 212 Principles of Chemistry I (4)
* CHEM 213 Principles of Chemistry II (4)
CHEM 340 Organic Chemistry (4)
Note: Organic Chemistry 350 and 351 may be substituted for CHEM 340.

ELECTIVES (15 S.H.)
Any biology course (required or elective) that is part of the B.S. Biology major (any option).

BIOLOGY ELECTIVES
The following courses may be used as electives in any biology major option or in the biology minor.

Biology (BIOL)
201  Human Anatomy (4)
303  Biology of Algae and Fungi (4)
307  Cell Biology Laboratory (1)
309  Developmental Biology (3)
311  Genetics Laboratory (1)
313  General Ecology Laboratory (1)
314  Current Issues in Plant Biology (4)
315  Environmental Biology (4)
318  Invertebrate Zoology (4)
319  Vertebrate Biology (4)
320  Ornithology (4)
323  General Physiology (4)
324  General Physiology Laboratory (2)
327  Developmental Biology Laboratory (1)
330  Biomedical Ethics (3)
335  Plant Ecology (4)
340  Virology (3)

* Additional Requirements course as defined in Item 3, page 18
350 Plant Taxonomy (4)
360 Entomology (4)
365 Cultures & Ecology of East Africa – Tanzania (4)
380 Evolution (3)
393 Animal Cell Culture (4)
394 Plant Tissue Culture, Principles and Application (4)
400 Individual Problems in Biology (1-3)
405 Fishery Biology (3)
409 General Microbiology (4)
410 Membrane Biology (4)
411 Protein Structure and Function (1)
415 Ecology of Large Rivers (4)
420 Limnology (4)
423 Ecosystem Ecology (3)
424 Biogeography (3)
425 Animal Behavior (3)
427 Advanced Topics in Biology (1-4)
430 Molecular Biology (3)
431 Molecular Biology Laboratory (4)
441 Comparative Vertebrate Physiology (3)
443 Urinalysis (1)
444 Immunocohemistry and Hematology (2)
445 Immunology (3)
446 Immunology Laboratory (1)
460 General Parasitology (3)
462 Parasitology (4)
470 Histology (4)
490 Issues in Biology (3)
495 Seminar in Biology (1)
496 Undergraduate Thesis (1)
499 Capstone Project (1-3)

Statistics (STAT)
305 Biometry (3)

Health, Exercise and Rehabilitative Sciences (HERS)
370 Mechanical Kinesiology (3) (This is an elective for the Allied Health Option only.)

Chemistry (CHEM)
400 Biochemistry I (4)
401 Biochemistry II (4)

Psychology (PSY)
433 Neuroscience (4)

COURSE DESCRIPTIONS (BIOL)

104 - Environment, Society, and Conservation (3 S.H.)
Problems in the wise use of renewable resources with emphasis on human impacts and sustainable living. Lecture only. Offered each semester.

109 - Microbes and Society (3 S.H.)
An exploration of the microbial world and how that world influences life on earth. Through lectures, assigned readings, Internet explorations, videotapes, writing assignments, and discussions, this course examines the power and influence of selected microorganisms on history, medicine, economics, the environment, demography, the arts, and human lives. Letter grade only. Offered yearly.

117 - Human Biology (3 S.H.)
An introductory study of the anatomy, physiology, development, and heredity of the human for students who are not majoring in biology. Lecture only. Letter grade only. Offered each semester.

118 - General Biology (4 S.H.)
A course that promotes critical thinking about the process of studying living organisms. Students are exposed to a sampling of major living groups while utilizing the scientific method. Lecture and laboratory. Letter grade only. Offered each semester.

171 - Medical Terminology (1 S.H.)
Scientific terminology as it applies to human and veterinary medicine, dentistry, and related professions. Topics include suffixes and prefixes, numbers, amounts, colors, and positions as well as the integumentary, respiratory, and digestive systems. Independent study using CDs and study guide. Letter grade only. Offered each semester.

172 - Medical Terminology (1 S.H.)
Scientific terminology as it applies to human and veterinary medicine, dentistry, and related professions. Topics include cardiovascular, hemtic, lymphatic, urinary, and reproductive systems. Independent study using CDs and study guide. Letter grade only. Offered each semester.

173 - Medical Terminology (1 S.H.)
Scientific terminology as it applies to human and veterinary medicine, dentistry, and related professions. Topics include the nervous, endocrine, and musculoskeletal systems as well as medical specialties. Independent study using CDs and study guide. Letter grade only. Offered each semester.

201 - Human Anatomy (4 S.H.)
A study of the human body from both systemic and regional perspectives, integrating microscopic and macroscopic information. Includes cadavera as an example of mammalian anatomy and demonstrations of prosected cadavers. Lecture and lab. Prerequisites: CHEM 212, CHEM 213, and BIOL 241. Offered yearly.

203 - Natural History (4 S.H.)
Ecology, life history, behavior and identification of plants and animals in local habitats including forests, praries, lakes, and streams. Lecture, laboratory and field trips. Offered yearly.

204 - Elements of Anatomy and Physiology (4 S.H.)
Introduction to the structure and function of the human body designed especially for physical education, recreation, and health majors. Offered according to demand.

206 - Normal Nutrition (3 S.H.)
Basic principles of nutrition and the nutritional needs of individuals at different age levels. Lecture only. Prerequisite: CHEM 210. Offered each semester.

209 - Microbiology (3 S.H.)
Introduction to microbiology including study of prokaryotic, eukaryotic, and viral microorganisms important to human health, microbial growth, microbial control, microbial nutrition, and microbial cultivation. Lecture and laboratory. Prerequisite: CHEM 210. Offered yearly.

211 - Anatomy and Physiology I (4 S.H.)
First course of a year-long sequence for students in Nursing and Health, Exercise and Rehabilitative Sciences. Includes terminology and orientation of the body, basics of chemistry, cytology, histology, and the integumentary, skeletal, muscular, and nervous systems. Lecture and laboratory. Offered yearly.

212 - Anatomy and Physiology II (4 S.H.)
The second course of a year-long sequence for students in Nursing and Health, Exercise and Rehabilitative Science. Includes structure and function of the endocrine, circulatory, immune, respiratory, digestive, urinary, and reproductive systems; nutrition and metabolism; fluid and ionic balance. Lecture and laboratory. Prerequisite: BIOL 211. Offered yearly.

241 - Basics of Life (4 S.H.)
One of two introductory courses, both of which are required of all biology majors. Introduces the basic life processes at the molecular, cellular, tissue, and organismal levels. Lecture and laboratory. Offered each semester.

242 - Organismal Diversity (4 S.H.)
One of two introductory courses, both of which are required of all biology majors. Introduces ways in which organisms carry out basic life processes (e.g., gas exchange, nutrition) and interactions between organisms and their environment. Lecture and laboratory. Offered each semester.

260 - Human Reproduction (3 S.H.)
The biology of human reproduction. The aim of this course is to present a basic but comprehensive survey of many aspects of human reproduction. Topics include anatomy, physiology, biochemistry, and normal and abnormal functions of all aspects of reproduction. Lecture and discussion. Offered yearly.

303 - Biology of Algae and Fungi (4 S.H.)
A systematic, morphological and evolutionary overview of fungi, photosynthetic protists, and plants other than the angiosperms. Lecture and laboratory. Prerequisites: BIOL 308, BIOL 310, and BIOL 312. Offered according to demand.

307 - Cell Biology Laboratory (1 S.H.)
An experimental study of the cell as a biological unit. Use of histochemistry, spectrophotometry, electrophoresis, centrifugation, microscopy, and statistics in analysis of ultrastructure, macromolecular organization, and function of cell components in plants and animals. Prerequisites: BIOL 241, BIOL 242, and current or previous enrollment in BIOL 308 and either CHEM 340 or CHEM 350. Offered each semester.

308 - Cell Biology (3 S.H.)
A study of the cell as a biological unit. Emphasizes analysis of ultrastructure, macromolecular organization, and function of cell components in plants and animals. Lecture only. Prerequisites: BIOL 241, BIOL 242, and current or previous enrollment in either CHEM 340 or CHEM 350. Offered each semester.

309 - Developmental Biology (3 S.H.)
A study of the mechanisms of the sequent changes that occur within organisms, cells, tissues, organs, and organ systems of plants and animals during their life spans. Lecture only. Prerequisites: BIOL 308, BIOL 310, and BIOL 312. Offered alternate years.

310 - Genetics (3 S.H.)
A survey of the principles of Mendelian, molecular, cytological, population, and human genetics. Lecture only. Prerequisites: BIOL 241 and BIOL 242. Offered each semester.
311 - Genetics Laboratory (1 S.H.)
An optional laboratory to accompany Genetics (BIOL 310). Includes experiments from classical, molecular, and cytogenetics. Prerequisite: Concurrent or previous enrollment in BIOL 310. Offered yearly.

312 - General Ecology (3 S.H.)
Relationships between organisms and their environment with an emphasis on fundamental principles. Lecture only. Prerequisites: BIOL 241 and BIOL 242. Offered each semester.

313 - General Ecology Laboratory (1 S.H.)
Laboratory and field studies of fundamental ecological principles. Prerequisites: BIOL 241 and BIOL 242. Corequisite: BIOL 310. Offered yearly.

314 – Current Issues in Plant Biology (4 S.H.)
This course reviews a broad range of current topics/issues in plant biology by way of discussion and laboratory. Some of the topics are controversial and will cover ethical, social, and political aspects of plant biology.includes off-site visits to observe hospital and clinical laboratories. Prerequisites: BIOL 308, BIOL 310, and BIOL 312. Offered alternate years.

315 - Environmental Biology (3 S.H.)
A study of human impacts on the natural environment. Modern conservation measures, pollution prevention, and habitat management procedures are treated in depth. Lecture, laboratory, and field trips. Prerequisite: BIOL 308, BIOL 310, and BIOL 312. Offered alternate years.

318 - Invertebrate Zoology (4 S.H.)
Survey of invertebrate animals. Emphasis on structure, function, evolution, and ecology of the major invertebrate groups. Lecture and laboratory. Prerequisites: BIOL 308, BIOL 310, and BIOL 312. Offered alternate years.

319 – Vertebrate Biology (4 S.H.)
A study of the structure, function, evolution, and taxonomy of all the groups of vertebrates. Lecture and laboratory. Prerequisites: BIOL 308, BIOL 310, and BIOL 312. Offered alternate years.

320 - Ornithology (4 S.H.)
Structure, classification, behavior, distribution, and identification of birds. Lecture, laboratory, and fieldwork. Prerequisites: BIOL 308, BIOL 310, BIOL 312, and CHEM 212 or instructor’s permission. Offered alternate years.

323 - General Physiology (4 S.H.)
Lectures, demonstrations, and discussions are designed to provide the basis for understanding physiological mechanisms and the functional organization of body systems. This is an examination of how the human body works. Lecture only. Prerequisites: BIOL 201, BIOL 241, BIOL 242, CHEM 212, and CHEM 213. Offered yearly.

324 - General Physiology Laboratory (2 S.H.)
An extensive laboratory course intended to introduce students to the classic physiology exercises as well as new techniques used to address questions about how a body functions. Exercise topics may include muscle physiology, neurophysiology, ECG, blood pressure, sensory investigations, respiratory functions, and diving response. Prerequisite: Concurrent or previous enrollment in BIOL 323. Offered yearly.

327 - Developmental Biology Laboratory (1 S.H.)
An experimental study of the mechanisms of changes that occur during embryonic development. Laboratory. Prerequisites: concurrent or previous enrollment in BIOL 309. Offered alternate years.

330 - Biomedical Ethics (3 S.H.)
Ethical issues in health care such as abortion, termination of treatment, euthanasia, truth-telling and confidentiality, medical experimentation and informed consent, transplant surgery, artificial insemination, surrogate pregnancy, or the allocation of medical resources. Lecture only. Offered yearly.

333 - Clinical Laboratory Techniques (1 S.H.)
Introduction to basic and specialized clinical laboratory techniques. These include formulating chemical solutions and compounds, phlebotomy, collection and processing of clinical specimens, aseptic techniques and culture of organisms, and the safe handling and disposal of laboratory materials. Includes off-site visits to observe hospital and clinical laboratories. Prerequisites: CHEM 212 and CHEM 213. Offered yearly.

335 - Plant Ecology (4 S.H.)
A study of the interactions of plants with each other and their environment. Emphasis is on applied and theoretical physiological, population, and community ecology. Lecture, fieldwork, and laboratory. Prerequisites: BIOL 308, BIOL 310, BIOL 312, and BIOL 313. Offered alternate years.

340 – Virology (3 S.H.)
Basic properties of viruses. Includes viral structure, assays, replication, diseases, genetic properties, mechanisms of interaction with cells, viral onogenesis, and interference with viral multiplication. Lecture only. Prerequisite: BIOL 308. Offered alternate years.

350 - Plant Taxonomy (4 S.H.)
An introduction to the principles and practices of plant classification, systematics and identification, as applied to vascular plants with special emphasis on the local flora. Lecture, laboratory, and field trips. Prerequisites: BIOL 308, BIOL 310, and BIOL 312. Offered alternate years.

360 - Entomology (4 S.H.)
The largest group of organisms on earth is explored through personal collections, projects, lecture, and laboratory exercises. Students sample morphology, life history strategies, and the diversity of the group through lecture discussions and laboratory exercises. Prerequisites: BIOL 308, BIOL 310, and BIOL 312. Offered alternate years.

365 - The Cultures and Ecology of East Africa - Tanzania (4 S.H.)
This is a four-week specialized travel study course, which deals with the cultural, medical, ethical, social, and political aspects of East Africa, specifically Tanzania. An immersive classroom experience is followed by a three-week study tour in Tanzania. Specific attention is paid to the cultural and natural resources of the area. Students visit traditional villages, schools, hospitals, national parks and game reserves, and cultural sites. Grade only. Prerequisites: Sophomore standing or higher and instructor’s permission. Offered summers of alternate years.

380 - Evolution (3 S.H.)
Overview of principles and processes of biological evolution with emphasis on selection, variation, and macroevolution. Lecture only. Prerequisites: BIOL 308, BIOL 310, and BIOL 312. Offered alternate years.

393 - Animal Cell Culture (4 S.H.)
Introduction to basic and specialized techniques of eukaryotic cell culture. Techniques include aseptic technique, in vitro cell cultivation, cell enumeration, viability determination, hybridoma technique for monoclonal antibody production, cryopreservation, and cell cloning. Lecture and laboratory. Prerequisites: BIOL 308, and BIOL 310. Offered yearly.

394 - Plant Tissue Culture, Principles and Application (4 S.H.)
Basic plant tissue culture techniques. Use of these methods in commercial propagation of plants, production of disease-free plants, and genetic improvement of ornamental and crop plants. Laboratory and discussions. Prerequisite: BIOL 308. Offered alternate years.

399 - Internship (1-12 S.H.)
Supervised experiences at a government, industrial, or research institution. Credits do not replace other required or elective courses in the Biology Major, but count as general elective credit. May be repeated up to 12 S.H. Only 3 S.H. may be taken for letter grade. Prerequisites: BIOL 308, BIOL 310, and BIOL 312. Offered each semester.

400 - Individual Problems in Biology I (1-3 S.H.)
An opportunity for the qualified advanced undergraduate student to work independently. May be repeated to a total of 3 S.H. Prerequisite: Instructor's permission. Letter grade only. Offered each semester.

405 - Fishery Biology (3 S.H.)
Examination of the concepts, methodologies, and problems of modern-day fishery management. Lecture and fieldwork. Prerequisites: BIOL 308, BIOL 310, and BIOL 312. Offered alternate years.

409 – General Microbiology (4 S.H.)
The anatomy, physiology, biochemistry, genetics, taxonomy, and ecology of microorganisms, especially bacteria; includes applications to agriculture, medicine, and industry. Lecture and laboratory. Prerequisites: BIOL 308, BIOL 310, and CHEM 340. Offered yearly.

410 - Membrane Biology (4 S.H.)
Study of the structure and function of biological membranes. Includes detailed discussions of membrane preparation, membrane components, membrane carbohydrates, membrane transport, and membrane bioenergetics. Lecture and laboratory. Prerequisites: BIOL 308, BIOL 310, BIOL 312, and CHEM 340. Offered according to demand.

411 - Protein Structure and Function (1 S.H.)
An advanced study of protein primary, secondary, tertiary, and quaternary structure using the data found in the National Institutes of Health Protein Data Bank, along with software for visualization and presentation of crystallographic data. Protein functions will be correlated with the structural features through primary literature, monographs, and textbooks. Lecture and demonstration. Prerequisites: BIOL 308, and CHEM 340 or CHEM 350. Offered according to demand.

415 - Ecology of Large Rivers (4 S.H.)
Examination of the geological, physical, chemical, and biological characteristics of large river ecosystems. Includes review of several river systems with comparisons to the upper Mississippi River. Lecture and laboratory. Prerequisites: BIOL 308, BIOL 310, and BIOL 312 or instructor’s permission. Offered alternate years.

420 - Limnology (4 S.H.)
Analysis of the geological, physical, chemical, and biological aspects of
inland waters. Lecture, laboratory, and fieldwork. Prerequisites: BIOL 308, BIOL 310, BIOL 312, and CHEM 212 or instructor's permission. Offered alternate years.

423 - Ecosystem Ecology (3 S.H.)
The structure and function of ecosystems including biochemical cycling, food webs, and introduction to modeling. Lecture only. Prerequisites: BIOL 308, BIOL 310, BIOL 312, MATH 150, and MATH 155. Offered alternate years.

424 - Biogeography (3 S.H.)
A study of the dynamics of ranges and distribution changes of plants and animals on earth, with emphasis on the evolutionary, ecological, geological, and climatic influences on dispersal, extinction, and diversification. Lecture only. Prerequisites: BIOL 308, BIOL 310, and BIOL 312. Offered alternate years.

425 - Animal Behavior (3 S.H.)
A study of how and why animals behave in the ways they do. Special attention is given to the observation and description of behavior and to the ensuing questions of immediate causation, development, evolution and function of behavior. Lecture and demonstration. Prerequisites: BIOL 308, BIOL 310, and BIOL 312. Offered alternate years.

427 - Advanced Topics in Biology (1-4 S.H.)
In-depth study of an emerging field or relevant issue of special interest to faculty or advanced students of biology. Lecture only, or lecture and laboratory. Topic announced in advance. May be repeated for credit as topics change. Prerequisites: BIOL 308, BIOL 310, and BIOL 312. Offered according to demand and staffing availability.

430 - Molecular Biology (3 S.H.)
A study of the various molecular aspects of DNA, RNA, and protein structure, function, and expression. Topics include DNA replication, DNA transcription into RNA, RNA translation to protein, DNA repair mechanisms, cloning and transposons, recombinant DNA and genetic engineering, and regulation of gene activity in prokaryotes and eukaryotes. Lecture only. Prerequisites: BIOL 308, BIOL 310, BIOL 312, and CHEM 340. Offered yearly.

431 - Molecular Biology Laboratory (4 S.H.)
An intensive laboratory course introducing modern methods and instrumentation in molecular biology. Selected exercises in recombinant DNA technology, including DNA isolation and quantification, restriction enzyme analysis, gene cloning, Southern hybridization, DNA amplification via the polymerase chain reaction, DNA sequencing and introduction to sequence analysis software. Prerequisites: BIOL 430 or concurrent enrollment; instructor's permission. Offered yearly.

440 - Clinical Physiology (3 S.H.)
This course will review applied theory and practice in clinical chemistry and human physiology. This will be a review of basic and advanced information in clinical laboratory chemistry and how it relates to patient health and care. Laboratory and discussions. Prerequisites: BIOL 325 and admission into the Clinical Laboratory Science program. Offered yearly.

441 - Comparative Vertebrate Physiology (3 S.H.)
Lectures and demonstrations provide an understanding of physiological mechanisms in an evolutionary context. Focus will be on organ systems, physiology, but will also include mechanisms of interaction between the cellular, tissue, organ, and organismal levels. Topics include temperature, water and solutes, respiration/circulation, sensory/nervous systems, endocrinology/ reproduction. Prerequisites: BIOL 241, BIOL 242, BIOL 312, BIOL 308, and CHEM 340 or CHEM 350. Offered alternate years.

442 - Clinical Laboratory Management (1 S.H.)
A comprehensive presentation of information relating to management skills within the clinical laboratory, including organizational structure, job descriptions, personnel and financial management, revenue generation, measurement standards and compliance with governmental regulations. Grade only. Prerequisite: Admission into the Clinical Laboratory Science program. Offered yearly.

443 - Urinalysis (1 S.H.)
An introduction to the clinical study of human urine for students majoring in medical technology. The topics included are physiology, methodologies, and test performance as well as clinical significance in the areas of urinalysis, cerebrospinal fluids, and gastric analysis. Laboratory only. Letter grade only. Prerequisites: BIOL 308, BIOL 310, and CHEM 340. Offered yearly.

444 - Immunology and Hematology (2 S.H.)
Study of blood and blood-forming tissues for medical technology majors. Includes development, cytology, immunocytology, histology, and functions of all formed elements and plasma composition. Lecture and laboratory. Prerequisites: BIOL 308, BIOL 310, and CHEM 340 or CHEM 350. Offered yearly.

445 - Immunology (3 S.H.)

446 - Immunology Laboratory (1 S.H.)
This course introduces students to the theory and application of modern immunological techniques. Topics include antibody detection methods using precipitation, agglutination, ELISA, western blot analysis, immunofluorescence, and immunoelectrophoresis. Other methods include SDS-PAGE, antigen preparation, protein analysis, T Cell isolation, differential white blood cell counts. Prerequisite: Concurrent or previous enrollment in BIOL 445. Offered yearly.

450, 451 - Medical Technology I and II (12 S.H. each)
Lecture and laboratory medicine. Courses and content to be determined by the Director of Laboratories, Educational Coordinator, and staff of the affiliated hospital. Letter grade only. Prerequisite: Medical technology majors with senior standing and instructor's permission. Offered yearly.

452, 453 - Medical Technology III and IV (4 S.H. each)
Laboratory medicine. Courses and content to be determined by the Director of Laboratories, Educational Coordinator, and staff of the affiliated hospital. Letter grade only. Prerequisite: Medical technology majors with senior standing and instructor's permission. Offered yearly.

460 - General Parasitology (3 S.H.)
An introduction to the study of parasites of humans and domestic animals, and the etiology of associated pathologic states. This course is especially intended for students in the medical technology program. Lecture and laboratory. Prerequisites: BIOL 308, BIOL 310, and CHEM 340. Offered yearly.

462 - Parasitology (4 S.H.)
This course will examine medically and veterinary important parasites of the world. Each parasite will be studied thoroughly to include details of taxonomic classification, host spectrum, geographic distribution, morphology, life cycle, identification, control measures, and public health significance. Lecture and laboratory. Prerequisites: BIOL 308, BIOL 310, and CHEM 340 or instructor's permission. Offered yearly.

470 - Histology (4 S.H.)
A microscopic study of animal cells, tissues, and organs and correlating structure and function. Emphasis is placed on the mammal. Laboratory includes histotechniques for preparing sections and histochemical staining. Lecture and laboratory. Prerequisites: BIOL 308, BIOL 310, CHEM 212, and CHEM 213. Offered yearly.

481, 482 - Cytotechnology I and II (12 S.H. each)
Cytotechnology clinical education. Courses and content to be determined by the program director, educational coordinator, and staff of the affiliated clinical education facility. Letter grade only. Prerequisites: Cytotechnology major with senior standing and instructor's permission. Offered yearly.

483, 484 - Cytotechnology III and IV (4.5 S.H. each)
Cytotechnology clinical education. Courses and content to be determined by the program director, educational coordinator, and staff of the affiliated clinical education facility. Letter grade only. Prerequisites: Cytotechnology major with senior standing and instructor's permission. Offered yearly.

490 - Issues in Biology (3 S.H.)
A course, intended for seniors, that promotes student understanding of the interrelated concerns of society and biology. Students will explore the social, ethical, and political implications of current issues in biology. Next, students will analyze a specific issue, develop arguments and counter-arguments used by opposing positions, write a formal paper documenting at least two opposing views, and defend a position in a formal debate. Prerequisites: BIOL 308, BIOL 310, BIOL 312 and senior standing or instructor's permission. Offered yearly.

495 - Seminar in Biology (1 S.H.)
Students prepare an in-depth written paper and/or an oral presentation based on original technological or biological literature. Letter grade only. May be taken twice for credit. Prerequisite: Senior standing or instructor's permission. Offered each semester.

496 - Undergraduate Thesis (1 S.H.)
Students who have completed an extensive undergraduate research project (such as the projects completed by students in the Honors in Biology Program) are given the opportunity to work closely with a professor in writing and editing their own undergraduate theses. The finished thesis is expected to be an example of excellent collegiate scholarship and writing in scientific style. The manuscript will correctly use and cite appropriate current literature. Prerequisite: Instructor's permission. Offered each semester.

499 - Capstone Project (1-3 S.H.)
An opportunity for an advanced biology student to work with a faculty member on an independent research project to fulfill the capstone requirement. Written report on results of research required. May be repeated to a maximum of 3 S.H. Prerequisites: BIOL 308, BIOL 310, BIOL 312, and instructor's permission. Offered each semester.
BUSINESS ADMINISTRATION
Somsen Hall, Room 324  (507-457-5170)
www.winona.edu/businessadministration/
JoEll Bjorke (Chairperson)

FACULTY
JoEll W. Bjorke, Professor; B.S., St. Cloud State University; J.D., William Mitchell College of Law; 1981 –
Shashi Dewan, Professor; B.S., Malviya Regional Engineering College; M.B.A., Ph.D., Indian Institute of Technology; 1988 –
Joseph Foegen, Professor; B.B.A., M.B.A., Ph.D., University of Wisconsin-Madison; 1958 –
Judy M. Gernander, Professor; B.A., Mankato State University; J.D., University of Minnesota-Twin Cities; 1970 –
Kathryn Ready, Associate Professor; B.A., M.B.A., University of Wisconsin-La Crosse; Ph.D., University of Iowa; 2006 –
Vartan Safarian, Professor; B.S., Pahlavi University; M.S., M.B.A., Indiana University; 1983 –
Daniel Sauers, Professor; B.S., Slippery Rock State University; M.B.A., Ph.D., Florida State University; 2002 –
Marvin Wolfmeyer, Professor; B.S., University of Missouri-Columbia; M.S., Ph.D., University of Wisconsin-Madison; 1969 –
Hamid Yeganeh, Assistant Professor; B.A., Isfahan University; M.B.A., Ph.D., Laval University; 2007 –

PURPOSE
The purpose of the Business Administration program is to prepare students for careers in management and administration positions in all types of organizations in the private, nonprofit, and public sectors. The management curriculum is designed to provide students with the tools to pursue professional careers in management of operating units or groups and more specialized areas such as human resources management.

GRADUATION REQUIREMENTS
1. Complete all course work required for the major.
2. No more than two courses may be counted toward the major with a passing grade lower than “C.”
3. Complete a minimum 15 credit hours of 300/400-level courses from the Department of Business Administration at WSU.
4. None of the courses required for a major, minor, option, or concentrations may be taken on a P/NC basis.
5. Complete a minimum of 50% of the business courses in the major at WSU.
6. Thirty-four non-business credits are required for all majors in the department. Of the math, statistics, and economics courses required for the major, 3 credits of math, 6 credits of statistics, and 9 credits of economics can be counted toward the requirement for 64 non-business credits.
7. Meet all WSU graduation requirements. For a checklist of the University's graduation requirements, see page 23.

WSU-ROCHESTER
The department's major is available through the 2+2 Program at WSU-Rochester. See page 37 for the articulation of the 2+2 program in Business Administration.

UNIVERSITY STUDIES FLAG REQUIREMENTS
Students may use flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student’s major or minor program. The Business Administration Department offers the following flag courses in the University Studies Program:

FLAG

**Oral**
- MGMT 495 Strategic Management (3)

**Math/Critical Analysis**
- BUSA 220 Business Statistics (3)
- BUSA 320 Intermediate Business Statistics (3)

**Writing**
- MGMT 317 Management of Human Resources (3)
- MGMT 325 Organizational Dynamics (3)

Flag courses that can be used to satisfy Business Administration major/minor requirements are identified in the lists of required courses and electives in this section.

B.S. MAJOR - BUSINESS ADMINISTRATION (BA)
66 S.H. (No Minor Required)

UNIVERSITY STUDIES REQUIREMENTS
Mathematics (3 S.H.)
- MATH 110 Finite Mathematics (3) or higher. Students considering graduate school should take MATH 140 (Applied Calculus).

REQUIRED COURSES (51 S.H.)
Accounting (6 S.H.)
- ACCT 211 Financial Accounting Principles (3)
- ACCT 212 Managerial Accounting Principles (3)

Business Administration (12 S.H.)
- BUSA 220 Business Statistics (3)
- BUSA 301 Business Law I (3)
- BUSA 311 Business Law II (3)
- BUSA 320 Intermediate Business Statistics (3)

Economics and Finance (9 S.H.)
- ECON 201 Principles of Microeconomics (3)
- ECON 202 Principles of Macroeconomics (3)
- FIN 360 Corporate Finance (3)

Management Information Systems and Operations Management (9 S.H.)
- MIS 202 Microcomputers in Business (3)
- MIS 362 Management Information Systems (3)

OM 334 Operations Management (3)

Marketing (3 S.H.)
- MKTG 300 Principles of Marketing (3)

Management (12 S.H.)
- MGMT 315 Principles of Management (3) OR MGMT 455, International Business (3)
- MGMT 317 Management of Human Resources (3)
- MGMT 325 Organizational Dynamics (3)
- MGMT 495 Strategic Management (3)

ELECTIVES (12 S.H.)
Notes: Must be 300+ level courses:
- Courses from the Department of Business Administration (6)
- Courses from the College of Business (6)

B.S. MAJOR - HUMAN RESOURCES MANAGEMENT (HRMT)
66 S.H. (No Minor Required)

UNIVERSITY STUDIES REQUIREMENTS (3 S.H.)
Mathematics (3 S.H.)
- MATH 110 Finite Mathematics (3) or higher. Students considering graduate school should take MATH 140 (Applied Calculus).

REQUIRED COURSES (51 S.H.)
Accounting (6 S.H.)
- ACCT 211 Financial Accounting Principles (3)
- ACCT 212 Managerial Accounting Principles (3)

* “Additional Requirements” course as defined in Item 3, page 18
Business Administration (9 S.H.)
- BUSA 220 Business Statistics (3)
- BUSA 291 Legal Environment of Business (3)
- BUSA 320 Intermediate Business Statistics (3)

Economics and Finance (9 S.H.)
- ECON 201 Principles of Microeconomics (3)
- ECON 202 Principles of Macroeconomics (3)
- FIN 360 Corporate Finance (3)

Management (18 S.H.)
- MGMT 315 Principles of Management (3)
- MGMT 325 Organizational Dynamics (3)
- MGMT 417 Compensation (3)
- MGMT 467 Staffing and Evaluation (3)
- MGMT 495 Strategic Management (3)

Management Information Systems (3 S.H.)
- MIS 202 Microcomputers in Business (3)

Marketing (3 S.H.)
- MKTG 300 Principles of Marketing (3)

Operations Management (3 S.H.)
- OM 334 Operations Management (3)

ELECTIVES (12 S.H.)

Note: All 12 elective credits must be in 300+ level courses.

Business Administration
- BUSA 399 Internship Problems (3)
- BUSA 486 Independent Studies in Business (1-3)
- MGMT 365 Independent Readings in Management (1-3)
- MGMT 377 Independent Readings in Human Resources (1-3)
- MGMT 387 Independent Readings in Labor Relations (1-3)
- MGMT 415 Theories of Management (3)
- MGMT 427 Management Development (3)
- MGMT 437 Labor Relations (3)
- MGMT 457 Problems in Management of Human Resources (3)
- MGMT 477 International Human Resources Management (3)

Economics
- ECON 420 Labor Economics (3)

Other Electives
Related courses offered by other departments may be taken. A list of acceptable courses is available in the department office for human resources management majors.

B.S. MINOR - BUSINESS ADMINISTRATION (BA)
33 S.H.

REQUIRED COURSES (33 S.H.)

Accounting (6 S.H.)
- ACCT 211 Financial Accounting Principles (3)
- ACCT 212 Managerial Accounting Principles (3)

Business Administration/Management (9 S.H.)
- BUSA 220 Business Statistics (3)
- BUSA 291 Legal Environment of Business (3)
- MGMT 315 Principles of Management (3)

Economics and Finance (9 S.H.)
- ECON 201 Principles of Microeconomics (3)
- ECON 202 Principles of Macroeconomics (3)
- FIN 360 Corporate Finance (3)

Management Information Systems (3 S.H.)
- MIS 202 Microcomputers in Business (3)

Marketing (3 S.H.)
- MKTG 300 Principles of Marketing (3)

Operations Management (3 S.H.)
- OM 334 Operations Management (3)

B.S. MINOR - BUSINESS LAW (BLAW)
24 S.H.

REQUIRED COURSES (12 S.H.)

Accounting (6 S.H.)
- ACCT 211 Financial Accounting Principles (3)
- ACCT 212 Managerial Accounting Principles (3)

Business Administration (6 S.H.)
- BUSA 301 Business Law I (3)
- BUSA 311 Business Law II (3)

ELECTIVES (12 S.H.)

Accounting
- ACCT 421 Introduction to Taxation (3)

Business Administration
- BUSA 101 Introduction to Law and the Legal Process (3)
- BUSA 376 Topics in Business (1-3)

Note: BUSA 376 requires prior written approval from department chairperson.

BUSA 401 Insurance Law (3)
- BUSA 411 International Business Law (3)
- BUSA 421 Consumer Law (3)
- BUSA 431 Real Estate Law (3)
- BUSA 491 Seminar in Business Law (3)

Note: The following courses require written approval from department chairperson:

Philosophy
- PHIL 332 Philosophy of Law (3)

Political Science
- POLS 320 Constitutional Law (3)
- POLS 420 Administrative Law (3)

Additional courses may be used with prior written approval from department chairperson.

B.S. MINOR - INTERNATIONAL BUSINESS (INTB)
33 S.H.

REQUIRED COURSES (15 S.H.)

Economics
- ECON 404 International Economics (3)
- ECON 415 International Economic Development (3)

Finance
- FIN 440 International Finance (3)

Management
- MGMT 355 International Business (3)
- MGMT 475 Seminar in International Management (3)

Marketing
- MKTG 331 International Marketing (3)

FOREIGN LANGUAGE (9 S.H.)
A minimum of three semesters in a single foreign language; may also be applied toward fulfilling University Studies requirements.

ELECTIVES (9 S.H.)

Select three of the following:
- ACCT 424 International Taxation (3)
- BUSA 411 International Business Law (3)
- ECON 404 International Economics (3)
- ECON 415 International Economic Development (3)
- MGMT 447 International Labor Relations (3)
- MGMT 477 International Human Resources Management (3)

B.S. MINOR - MANAGEMENT (MGMT)
30 S.H.

REQUIRED COURSES (12 S.H.)

Select at least one course from each of the following four sections:

Organizational Component
- MGMT 315 Principles of Management (3)
- MGMT 325 Organizational Dynamics (3)
- MGMT 415 Theories of Management (3)
- MGMT 417 Compensation (3)
- MGMT 427 Management Development (3)
- MGMT 437 Labor Relations (3)
- MGMT 457 Problems in Management of Human Resources (3)
- MGMT 467 Staffing and Evaluation (3)

Operational Component
- MGMT 340 Management Science (3)
- MGMT 435 Managing for Quality (3)
- OM 334 Operations Management (3)
- OM 434 Purchasing (3)
- OM 464 Project Management (3)

International Component
- MGMT 355 International Business (3)
- MGMT 475 Seminar in International Management (3)
- MGMT 477 International Human Resources Management (3)
- MGMT 425 Small Business Management (3)
- MGMT 495 Strategic Management (3)
ELECTIVES (18 S.H.)
Select any additional 18 S.H. from the above list.

COURSE DESCRIPTIONS

Note: All courses except BUSA 101, 106, and 398 are offered on a grade-only basis.

BUSINESS ADMINISTRATION (BUSA)

101 - Introduction to Law and the Legal Process (3 S.H.)
A study of the law as part of a liberal education. Included are historical background, court systems and jurisdiction, criminal and civil procedure, common law, statutory law, administrative law, contracts, torts, family law, alternate dispute resolution, and remedies. Not open to students who have completed 15 or more credits in business.

106 - Introduction to Business (3 S.H.)
Develops broad, basic understanding of business institutions, functions, practices, and problems. Provides students with a good overview of the major business functional areas and current issues in business, as well as important topics such as international business and business ethics. Not open to students who have completed 15 or more credits in business.

220 - Business Statistics (3 S.H.)
Elementary business statistics including descriptive measures, elementary probability, sampling of distributions, and statistical inference. Competence in the use of Excel is necessary. Prerequisites: MATH 110, MATH 120, MATH 140, or instructor's permission. Grade only.

291 - Legal Environment of Business (3 S.H.)
An introduction to the legal environment of business including dispute resolution systems and regulations affecting managerial decision making. Grade only.

301 - Business Law I (3 S.H.)
Legal background, contracts, criminal law, bailments, carriers, agency, torts, sales, and commercial paper. Grade only.

311 - Business Law II (3 S.H.)
Partnerships, corporations, bankruptcy, secured transactions, real and personal property, trusts and estates, antitrust, securities, insurance, trademark, copyright, employment law, wills, and consumer protection. Prerequisite: BUSA 301 or instructor's permission. Grade only.

320 - Intermediate Business Statistics (3 S.H.)
A continuation of Business Statistics I, including Chi-Square Tests, regression and correlation, and analysis of variance. Prerequisite: BUSA 220 or instructor's permission. Grade only.

326 - Business and the Future (3 S.H.)
This course includes a combination of lectures, student presentations, selected readings, and discussion that stimulate students to look into the future and imagine what changes will be taking place. The objective is to enhance competitiveness, stimulate creative thinking and innovation and, in so doing, to broaden horizons and career potential of graduates. Prerequisite: Junior or senior standing or instructor's permission. Grade only.

340 - Management Science (3 S.H.)
Quantitative analysis of management decision-making problems using a systematic and scientific approach. In particular, the focus is on application of quantitative and decision models including linear and dynamic programming, distribution and network models, inventory models, queuing theory, and Markov analysis and simulation. Prerequisite: BUSA 320 or instructor's permission. Grade only.

355 - International Business (3 S.H.)
Analysis of the legal system and real property, including the transfer of real estate, land use and regulations, landlord, tenant, estates and interests in real estate, and financing of the real estate transaction. Prerequisite: BUSA 311. Grade only.

386 - Independent Studies in Business (1-3 S.H.)
Offers the advanced student an opportunity to do additional reading and/or research in areas of special interest. Prerequisite: Instructor's permission. Total credits may not exceed 6 S.H. Grade only.

491 - Seminar in Business Law (3 S.H.)
This advanced seminar covers current legal issues. Focus of the course to be determined by the instructor and announced in class schedule. Prerequisite: Senior standing. Enrollment limited. Grade only.

MANAGEMENT (MGMT)

315 - Principles of Management (3 S.H.)
Analysis of the functions performed by managers of all organizations and related theory and research. Important management topics such as current changes and trends in management, ethics, and global management are addressed. Prerequisites: Junior standing. Grade only.

317 - Management of Human Resources (3 S.H.)
Problems involved in developing an organization's human resources so that benefits to both the individual and the organization are maximized. Prerequisites: Junior standing. Grade only.

325 - Organizational Dynamics (3 S.H.)
Examination of different types of leadership skills used to resolve organizational problems and to achieve the goals of the organization. The behavioral sciences are stressed, with emphasis on leadership and motivation theories. Prerequisite: Junior standing. Grade only.

355 - International Business (3 S.H.)
A study of how managing abroad differs from managing at home, from strategic and operations-oriented perspectives. Prerequisite: Junior standing or instructor's permission. Grade only.

365 - Independent Readings in Management (1-3 S.H.)
To provide more background in management, three books of the student's choice (with faculty advisor approval) are read for each credit desired. Primary source is WSU library. Chapter summaries and evaluations are requested for each book as well as an integrative report, comparing and contrasting each of the books. Prerequisite: Junior standing or instructor's permission. Limit of 9 credits of independent study per program. Grade only.

377 - Independent Readings in Human Resources (1-3 S.H.)
To provide more background in human resources, three books of the student's choice (with faculty advisor approval) are read for each credit desired. Primary source is WSU library. Chapter summaries and evaluations are requested for each book as well as an integrative report, comparing and contrasting each of the books. Prerequisite: Junior standing or instructor's permission. Limit of 9 credits of independent study per program. Grade only.

387 - Independent Readings in Labor Relations (1-3 S.H.)
To provide more background in labor relations, three books of the student's choice (with faculty advisor approval) are read for each credit desired. Primary source is WSU library. Chapter summaries and evaluations are requested for each book as well as an integrative report, comparing and contrasting each of the books. Prerequisite: Junior standing or instructor's permission. Limit of 9 credits of independent study per program. Grade only.

415 - Theories of Management (3 S.H.)
Study of various modern theories of management and organization. Application of these theories to actual management situations is also examined. Prerequisite: MGMT 315 or MGMT 325. Grade only.

417 - Compensation (3 S.H.)
Issues, theories, and policies in the areas of wage and salary administration and employee compensation. Prerequisites: ACCT 211, ECON 201, ECON 202, MGMT 315, and MGMT 317 or instructor's permission. Grade only.

425 - Small Business Management (3 S.H.)
Explore, investigate, and analyze small businesses and their management practices. Develop business plans and feasibility studies of small business. Study all operational and managerial aspects of small business and operations. Extensive usage of case study methods. Prerequisites: BUSA 220 and MGMT 315 or MGMT 325 or instructor's permission. Grade only.

427 - Management Development (3 S.H.)
This course focuses on management development and its applications in organizations. It will cover the basics of development including
determination if a development problem exists, needs assessment, establishing objectives, choice of development techniques, evaluations of programs and means for successful implementation in an organization. Prerequisites: MGMT 315 or MGMT 325 and MGMT 317 or instructor's permission. Grade only.

435 - Managing for Quality (3 S.H.)
An overview of the philosophy and principles of Total Quality Management (TQM) in general, and of Deming's approach in particular. Many of the most important contributors to the quality literature and movement are studied within the historical context of the development of Quality Management philosophy, methods, and technology. An overview of the basic tools and methods of TQM is given with applications. Prerequisites: OM 334 and senior standing or instructor's permission. Grade only.

437 - Labor Relations (3 S.H.)
Examination of labor organization structure, conflict, and practice, including the scope of major labor legislation, and the practical differences between labor and management, both public and private sector, over wages, hours, and working conditions. Prerequisites: MGMT 315 or MGMT 325 and MGMT 317 or instructor's permission. Grade only.

457 - Problems in Management of Human Resources (3 S.H.)
Controversial, practical situations involving people at work are examined with an eye to giving greater insight into the complexities of working effectively with others within immediate work groups and beyond. Prerequisites: ACCT 211, ECON 201, MGMT 315 or MGMT 325 and MGMT 317 or instructor's permission. Grade only.

467 - Staffing and Evaluation (3 S.H.)
Examination of staffing and evaluation including EEO and Affirmative Action requirements. Areas covered will include recruitment, selection, job analysis, and performance appraisal. Prerequisites: ACCT 211, ECON 201, BUSA 220, MGMT 315 or MGMT 325 and MGMT 317 or instructor's permission. Grade only.

475 - Seminar in International Management (3 S.H.)
A study of how and why multinational organizations need to adapt their management tasks and practices to the different international settings in which they operate. The course will incorporate the study and intensive discussion of latest literature and case studies in this field. Prerequisite: MGMT 455 or instructor's permission. Grade only.

477 - International Human Resources Management (3 S.H.)
This course focuses on issues involved in international human resource management. It reviews adaptations that human resources management must make to work in today's global environment. Prerequisite: Junior standing. Grade only.

495 - Strategic Management (3 S.H.)
An advanced, integrative course for senior business administration majors. Uses cases to stress interrelationships of all functional areas, organization life stages, strategy development, and policy formation. Prerequisites: MKTG 300, OM 334, MGMT 325, FIN 360, and senior standing. Grade only.

BUSINESS EDUCATION
Somsen Hall, Room 319 (507-457-5165)
www.winona.edu/bued
Jeanette Karjala, Advisor

The Business Education program offers the following degree and certificate programs:
• Bachelor of Science: Business Education (Teaching)
• Bachelor of Science: Training and Development Minor
• Certificate: Training and Development

For general teacher education requirements, see the Department of Education section on page 90; for specific business education requirements and course descriptions, see page 97.

CHEMISTRY
Pasteur Hall, Room 320 (507-457-5290)
www.winona.edu/chemistry/
Charla Miertschin (Chairperson)

FACULTY
John C. Deming, Assistant Professor; B.S., Ph.D., University of Montana; 2006 –
Mark A. Engen, Professor; B.S., Bemidji State University; Ph.D., Montana State University; 1997 –
Joanne L. Franz, Professor; B.A., Augustana College; Ph.D., University of Minnesota-Twin Cities; 1996 –
Sara M. Hein, Associate Professor; B.S., University of Wisconsin-La Crosse; Ph.D., University of Iowa; 2000 –
Robert W. Kopitke, Associate Professor; B.S., M.S., Ph.D., Florida Institute of Technology; 1999 –
Charla S. Miertschin, Professor; B.S., Abilene Christian University; Ph.D., Texas A&M University; 1993 –
Ihab N. Nulli, Professor; B.S., Union College (NY); M.S., Ph.D., University of Rochester; 1995 –
C.B. William Ng, Professor; B.S., M.S., Ph.D., University of British Columbia; 1986 –
Bruce J. Sciveng, Professor; B.A., St. Olaf College; Ph.D., Michigan State University; 1987 –

PURPOSE
The Chemistry Department offers four Bachelor of Science majors to prepare students to enter business, industry, professional schools, graduate schools in chemistry, and the environmental field. Students in these programs have ample opportunity for part-time employment in work related to chemistry either in the department or in local industry. They are encouraged to become involved in research projects with members of the department in preparation and characterization of novel inorganic compounds; synthesis and isolation of natural products; study of organic reaction mechanisms; analytical work and environmental studies for local industries and government; thermodynamics, kinetic, and quantum mechanical studies of multi-component systems; toxicology and drug metabolism; computer molecular computation and modeling in chemistry; and synthesis, characterization, and applications of polymers.

In addition, the department offers B.S. Chemistry (Teaching) and B.S. Physical Science (Teaching) majors for students wishing to teach chemistry or physical science. The major meets Minnesota teacher certification requirements. Wisconsin certification requires minor modifications. Students preparing for certification in other states should consult with the department to learn of any necessary modifications. The department also offers three minors in chemistry: biochemistry, polymer chemistry, and chemistry.

The Chemistry Department is home to the Southeast Minnesota Analytical Service (SEMAS), which provides educational opportunities through part-time employment.

PRE-PROFESSIONAL SEQUENCES
The Chemistry Department sponsors pre-professional sequences, which are not degree programs (e.g., major or minor) at WSU. The programs are preparatory for a degree at another college or university. The pre-professional sequences offered through the Chemistry Department are pre-medicine (Allopathic and Osteopathic) and pre-pharmacy. For detailed course descriptions, see “Pre-Professional Sequences” in this catalog.
ACCREDITATION AND MEMBERSHIP
The American Chemical Society (ACS) has examined all aspects of the Department of Chemistry and has approved its overall program. A student completing the B.S. Chemistry Major-Option B will be “certified” by the ACS as a professional chemist.

PASS/NO CREDIT (P/NC) COURSES
Except for internships and practica, students must take all courses in their major, minor, options, concentrations, and licensures on a grade-only basis. The P/NC option is available to non-majors unless otherwise noted. Courses offered on a pass/no credit-only or grade-only basis are so designated in the course descriptions.

UNIVERSITY STUDIES FLAG REQUIREMENTS
Students may use flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student’s major or minor program. The Chemistry Department offers the following flag courses in the University Studies Program:

**FLAG**

* Oral
  - CHEM 360 Chemical Information (2)
  - CHEM 436 Topics in Environmental Chemistry (3)
  - CHEM 475 Seminar in Chemistry (1)

* Math/Critical Analysis
  - CHEM 412 Physical Chemistry I (3)
  - CHEM 414 Physical Chemistry II (3)
  - CHEM 415 Physical Chemistry II Lab (2)
  - CHEM 425 Analytical Chemistry I (4)
  - CHEM 426 Analytical Chemistry II (4)
  - CHEM 430 Individual Problems in Chemistry (1-3)

* Writing
  - CHEM 400 Biochemistry I (4) (Note: Only 1 S.H. of CHEM 400 counts as a Writing Flag.)
  - CHEM 402 Biochemistry Lab (1)
  - CHEM 413 Physical Chemistry Lab I (1)
  - CHEM 415 Physical Chemistry Lab II (2)
  - CHEM 426 Analytical Chemistry II (4)
  - CHEM 430 Individual Problems in Chemistry (1-3)

Flag courses that can be used to satisfy chemistry major/minor requirements are identified in the lists of required courses and electives in this section.

**B.S. MAJOR CHEMISTRY - OPTION A (CHA)**

63-67 S.H. (No Minor Required)

**REQUIRED COURSES (57-61 S.H.)**

Chemistry - CHEM (41 S.H.)
- 212, 213 Principles of Chemistry I, II (8)
- 350, 351 Principles of Organic Chemistry I, II (9)
- 360 Chemical Information (2)
- 412 Physical Chemistry I (3)
- 413 Physical Chemistry I Lab (1)
- 414 Physical Chemistry II (3)
- 415 Physical Chemistry II Lab (2)
- 425 Analytical Chemistry I (4)
- 426 Analytical Chemistry II (4)
- 450 Advanced Inorganic Chemistry I (4)
- 475 Seminar in Chemistry (1)

Mathematics – MATH (8-12 S.H.)
- 120 Precalculus (4)
- 160, 165 Calculus I, II (8)

Physics – PHYS (8 S.H.)
- 221, 222 University Physics I, II (8)

**ELECTIVES (6 S.H.)**

- CHEM 320, 401, 402 (400), 410, 411, 420, 427, 428, 430 (I), 436 (P), 438, 439, 447, 451, 470, 472
- CHEM 430 cannot account for more than 3 S.H. of chemistry electives.

**B.S. MAJOR CHEMISTRY - OPTION B (CHB)**

74-78 S.H. (No Minor Required)

Note: American Chemical Society certification will be given to students completing this option.

**REQUIRED COURSES (61-65 S.H.)**

Chemistry - CHEM (45 S.H.)
- 212, 213 Principles of Chemistry I, II (8)
- 350, 351 Principles of Organic Chemistry I, II (9)
- 360 Chemical Information (2)
- 400 Biochemistry I (4)
- 412 Physical Chemistry I (3)
- 413 Physical Chemistry I Lab (1)
- 414 Physical Chemistry II (3)
- 415 Physical Chemistry II Lab (2)
- 425 Analytical Chemistry I (4)
- 426 Analytical Chemistry II (4)
- 450 Advanced Inorganic Chemistry I (4)
- 475 Seminar in Chemistry (1)

Note: Students should begin the math and chemistry sequences at the same time.

Mathematics – MATH (8-12 S.H.)
- 120 Precalculus (4)
- 160, 165 Calculus I, II (8)

Physics – PHYS (8 S.H.)
- 221, 222 University Physics I, II (8)

**ADDITIONAL REQUIREMENTS – CHEM (5 S.H.)**

- 430 Individual Problems in Chemistry (3)
- 451 Advanced Inorganic Chemistry II (2)

**CHEMISTRY ELECTIVES (5 S.H.)**

- CHEM 401, 402 (400), 410, 411, 420, 427, 428, 436 (P), 438, 439, 447, 470, 472

**OTHER SUGGESTED ELECTIVES**

Computer programming, biology, geology, and German

**B.S. MAJOR - BIOCHEMISTRY (CHBC)**

75-79 S.H. (No Minor Required)

**REQUIRED COURSES (75 S.H.)**

Chemistry—CHEM (40 S.H.)
- 212, 213 Principles of Chemistry I, II (8)
- 350, 351 Principles of Organic Chemistry I, II (9)
- 360 Chemical Information (2)
- 400 Biochemistry I (4) (Note: Only 1 S.H. of CHEM 400 counts as a Writing Flag.)
- 401 Biochemistry I, II (3)
- 402 Biochemistry Laboratory (1)
- 412 Physical Chemistry I (3)
- 413 Physical Chemistry Laboratory I (1)
- 425 Analytical Chemistry I (4)
- 450 Advanced Inorganic Chemistry I (4)
- 475 Seminar in Chemistry (1)

Note: Students should begin the math and chemistry sequences at the same time.

Mathematics – MATH (8-12 S.H.)
- 120 Precalculus (4)
- 160, 165 Calculus I, II (8)

Physics – PHYS (8 S.H.)
- 221, 222 University Physics I, II (8)

**Biology – BIOL (14 S.H.)**

- 241 Basics of Life (4)
- 242 Organismal Diversity (4)
- 308 Cell Biology (3)
- 310 Genetics (3)

**CHEMISTRY ELECTIVES (5 S.H.)**

- CHEM 414 (P), 415 (P), 426 (P), 427, 430 (P), 438, 439, 447, 451

Note: CHEM 430 cannot account for more than 3 S.H. of chemistry electives.

* "Additional Requirements" course as defined in Item 3, page 18
THE SUGGESTED ELECTIVES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>STAT 210</td>
<td>Statistics</td>
<td>3</td>
</tr>
<tr>
<td>STAT 305</td>
<td>Biometry</td>
<td>3</td>
</tr>
<tr>
<td>MATH 260</td>
<td>Differential Equations and Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>ENG 210</td>
<td>Advanced Expository Writing</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 430</td>
<td>Molecular Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 431</td>
<td>Molecular Biology Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>STAT 305</td>
<td>Biometry</td>
<td>3</td>
</tr>
</tbody>
</table>

B.S. MAJOR CHEMISTRY - ENVIRONMENTAL SCIENCE OPTION (CHES)
92-93 S.H. (No Minor Required)

Note: Alliance with environmental science options of other departments is described under "Environmental Science" on page 109.

CHEMISTRY CORE COURSES (29 S.H.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>212, 213</td>
<td>Principles of Chemistry I, II</td>
<td>8</td>
</tr>
<tr>
<td>350, 351</td>
<td>Principles of Organic Chemistry I, II</td>
<td>9</td>
</tr>
<tr>
<td>412</td>
<td>Physical Chemistry I</td>
<td>3</td>
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<tr>
<td>413</td>
<td>Physical Chemistry II Lab</td>
<td>1</td>
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<tr>
<td>425</td>
<td>Analytical Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>426</td>
<td>Analytical Chemistry II</td>
<td>4</td>
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ENVIRONMENTAL SCIENCE OPTION REQUIREMENTS (10 S.H.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>320</td>
<td>Environmental Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>430</td>
<td>Individual Problems</td>
<td>2</td>
</tr>
<tr>
<td>436</td>
<td>Topics in Environmental Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>475</td>
<td>Seminar in Chemistry</td>
<td>1</td>
</tr>
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</table>

ENVIRONMENTAL SCIENCE OPTION ELECTIVES (4 S.H.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>401</td>
<td>Biochemistry I (Note: Only 1 S.H. of CHEM 400 counts as a Writing Flag.)</td>
<td>4</td>
</tr>
<tr>
<td>401</td>
<td>Biochemistry II (3)</td>
<td>4</td>
</tr>
<tr>
<td>410</td>
<td>Polymer Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>414</td>
<td>Physical Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>415</td>
<td>Physical Chemistry Lab II</td>
<td>2</td>
</tr>
<tr>
<td>420</td>
<td>Topics in Industrial Chemistry</td>
<td>2</td>
</tr>
<tr>
<td>427</td>
<td>Topics in Instrumental Chemistry</td>
<td>2</td>
</tr>
<tr>
<td>428</td>
<td>Chemical Separations</td>
<td>3</td>
</tr>
<tr>
<td>450</td>
<td>Advanced Inorganic Chemistry</td>
<td>2</td>
</tr>
<tr>
<td>470</td>
<td>Isotope, Nuclear and Radiochemistry</td>
<td>2</td>
</tr>
<tr>
<td>475</td>
<td>Seminar in Chemistry (1) or other advanced chemistry electives as approved by the Chemistry Department</td>
<td>1</td>
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</table>

OTHER REQUIRED COURSES (49-50 S.H.)

Biology – BIOL (12 S.H.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>241</td>
<td>Basics of Life</td>
<td>4</td>
</tr>
<tr>
<td>242</td>
<td>Organismal Diversity</td>
<td>3</td>
</tr>
<tr>
<td>312, 313</td>
<td>General Ecology Lecture and Lab</td>
<td>4</td>
</tr>
</tbody>
</table>

Geoscience – GEOS (12 S.H.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td>Dynamic Earth</td>
<td>4</td>
</tr>
<tr>
<td>130</td>
<td>Earth and Life through Time</td>
<td>4</td>
</tr>
<tr>
<td>240</td>
<td>Watershed Science</td>
<td>4</td>
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</tbody>
</table>

Mathematics – MATH (8 S.H.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>160, 165</td>
<td>Calculus I, II</td>
<td>8</td>
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</tbody>
</table>

Physics – PHYS (8 S.H.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>221, 222</td>
<td>University Physics I, II</td>
<td>8</td>
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</table>

The following two courses (6 S.H.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>315</td>
<td>Environmental and Natural Resource Economics</td>
<td>3</td>
</tr>
<tr>
<td>340</td>
<td>Environmental Policy</td>
<td>3</td>
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</table>

One of the following courses (3-4 S.H.)

Biology – BIOL

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>315</td>
<td>Environmental Biology</td>
<td>3</td>
</tr>
<tr>
<td>335</td>
<td>Plant Ecology</td>
<td>4</td>
</tr>
<tr>
<td>360</td>
<td>Entomology</td>
<td>4</td>
</tr>
<tr>
<td>415</td>
<td>Ecology of Large Rivers</td>
<td>4</td>
</tr>
<tr>
<td>420</td>
<td>Limnology</td>
<td>4</td>
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</table>

Geoscience – GEOS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>315</td>
<td>Surficial Processes and Soils</td>
<td>4</td>
</tr>
<tr>
<td>325</td>
<td>Environmental Geoscience</td>
<td>3</td>
</tr>
<tr>
<td>420</td>
<td>Applied Hydrogeology</td>
<td>4</td>
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</table>

B.S. MAJOR - CHEMISTRY (Teaching) (CHET)

REQUwRED COURSES (30 S.H.)

Chemistry - CHEM (30 S.H.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>212, 213</td>
<td>Principles of Chemistry I, II</td>
<td>8</td>
</tr>
<tr>
<td>320</td>
<td>Environmental Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>340</td>
<td>Organic Chemistry Survey OR</td>
<td>4</td>
</tr>
<tr>
<td>350</td>
<td>Principles of Organic Chemistry I</td>
<td>4</td>
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</table>

Note: Only students planning to take CHEM 351 as the chemistry elective below should take CHEM 350.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>360</td>
<td>Chemical Information</td>
<td>2</td>
</tr>
<tr>
<td>412</td>
<td>Physical Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>413</td>
<td>Physical Chemistry I Lab</td>
<td>1</td>
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Other Requirements (46 S.H.)

Biology – BIOL (8 S.H.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>241</td>
<td>Basics of Life</td>
<td>4</td>
</tr>
<tr>
<td>242</td>
<td>Organismal Diversity</td>
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Geoscience – GEOS (12 S.H.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>105</td>
<td>Astronomy</td>
<td>4</td>
</tr>
<tr>
<td>110</td>
<td>Oceanography</td>
<td>4</td>
</tr>
<tr>
<td>115</td>
<td>Meteorology</td>
<td>4</td>
</tr>
<tr>
<td>120</td>
<td>Dynamic Earth</td>
<td>4</td>
</tr>
<tr>
<td>130</td>
<td>Earth and Life through Time</td>
<td>4</td>
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Mathematics – MATH (8 S.H.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>160</td>
<td>Calculus I</td>
<td>4</td>
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<tr>
<td>165</td>
<td>Calculus II</td>
<td>4</td>
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</table>

Physics – PHYS (12 S.H.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>221, 222</td>
<td>University Physics I, II</td>
<td>8</td>
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Health, Exercise and Rehabilitative Sciences – HERS (3 S.H.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>204</td>
<td>Personal and Community Health</td>
<td>3</td>
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Special Education – SPED (3 S.H.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>400</td>
<td>Education of Exceptional Children/Youth</td>
<td>3</td>
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</tbody>
</table>
ELECTIVES (4 S.H.)
Chemistry (4 S.H.)
Any 300-level or higher chemistry courses, or other advanced chemistry electives as approved by the Chemistry Department, or CHEM 351 for students taking CHEM 350.

PROFESSIONAL EDUCATION SEQUENCE (32 S.H.)
Notes:
1. These courses require formal admission to the teacher education program. (See page 91, "Admission to the WSU Teacher Education Program.")
2. The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

- EDUC 305 Human Development and Learning: Secondary (4)
- EDUC 308 Human Relations and Student Diversity (3)
- EDUC 312 Instructional Planning and Assessment: Secondary (3)
- EDUC 429 Secondary Reading and Teaching Strategies (4)
- EDUC 449 Middle Level Philosophy, Organization and Planning (3)
- EDUC 459 Professional Educator (3)
- EDST 465 Student Teaching (12-16)

B.S. MAJOR - PHYSICAL SCIENCE (Teaching) (CPST)
80 S. H. (No Minor Required)

REQURED COurses (62 S.H.)
Chemistry - CHEM (28 S.H.)

- 212, 213 Principles of Chemistry I, II (8)
- 320 Environmental Chemistry (4)
- 340 Organic Chemistry Survey (4)
- 360 Chemical Information (2)
- 412 Physical Chemistry I (3)
- 413 Physical Chemistry I Lab (1)
- 425 Analytical Chemistry I (4)
- 431 Guided Study in Teaching Chemistry (2)

Physics - PHYS (32 S.H.)

- 221, 222, 223 University Physics I, II, III (12)
- 311 Science Teaching Methods (4)
- 330 Electronics (4)
- 340 Modern Physics (4)
- 350 Mechanics (4)
- 370 Optics (4)

Physics or Chemistry (2 S.H.)

- CHEM 430 Individual Problems (1) AND
- CHEM 475 Seminar in Chemistry (1) OR
- PHYS 460 Undergraduate Research (2)

OTHER REQUIREMENTS (18 S.H.)
Mathematics - MATH (12 S.H.)

- 160 Calculus I (4)
- 165 Calculus II (4)
- 270 Differential Equations (4)

Health, Exercise and Rehabilitative Sciences - HERS (3 S.H.)

- HERS 204 Personal and Community Health (3)

Special Education - SPED (3 S.H.)

- SPED 400 Education of Exceptional Children/Youth (3)

PROFESSIONAL EDUCATION SEQUENCE (29 S.H.)
Notes:
1. These courses require formal admission to the teacher education program. (See page 91, "Admission to the WSU Teacher Education Program.")
2. The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

- EDUC 305 Human Development and Learning: Secondary (4)
- EDUC 308 Human Relations and Student Diversity (3)
- EDUC 312 Instructional Planning and Assessment: Secondary (3)
- EDUC 429 Secondary Reading and Teaching Strategies (4)
- EDUC 459 Professional Educator (3)
- EDST 465 Student Teaching (12-16)

B.S. MINOR - CHEMISTRY (CHEM)
30-34 S.H.

REQURED COurses (28-32 S.H.)
Chemistry - CHEM (24 S.H.)

- 212, 213 Principles of Chemistry I, II (8)
- 350, 351 Principles of Organic Chemistry I, II (9)
- 412 Physical Chemistry I (3)
- 425 Analytical Chemistry I (4)

Mathematics - MATH (4-8 S.H.)

- 120 Precalculus (4)
- 160 Calculus (4)

Note: Precalculus, MATH 120 (4), may be omitted if a student has otherwise met the prerequisite for MATH 160. MATH 150 (3) and MATH 155 (3) can be used to satisfy MATH 160 in this minor.

ELECTIVES (2 S.H.)
Chemistry electives

B.S. MINOR - BIOCHEMISTRY (BIOC)
29 S.H.

REQURED COurses (29 S.H.)
Chemistry - CHEM (25 S.H.)

- 212, 213 Principles of Chemistry I, II (8)
- 350, 351 Principles of Organic Chemistry I, II (9)
- 400 Biochemistry I (4) (Note: Only 1 S.H. of CHEM 400 counts as a Writing Flag.)
- 401 Biochemistry II (3)
- 402 Biochemistry Laboratory II (1)

Note: CHEM 340, Organic Chemistry (4), may be substituted for CHEM 350.

Mathematics - MATH (4 S.H.)

- 120 Precalculus (4) OR
- 160 Calculus I (4)

Note: Precalculus, MATH 120 (4), may be omitted if a student has otherwise met the prerequisite for MATH 160. MATH 150 (3) and MATH 155 (3) can be used to satisfy MATH 160 in this minor.

B.S. MINOR - POLYMER CHEMISTRY (CHP)
27-31 S.H.

REQURED COurses (27-31 S.H.)
Chemistry - CHEM (23 S.H.)

- 212, 213 Principles of Chemistry I, II (8)
- 350, 351 Principles of Organic Chemistry I, II (9)
- 410 Polymer Chemistry (3)
- 411 Synthesis and Characterization of Polymers (3)

Note: CHEM 340, Organic Chemistry (4), may be substituted for CHEM 350.

Mathematics - MATH (4-8 S.H.)

- 120 Precalculus (4)
- 160 Calculus I (4)

Note: Precalculus, MATH 120 (4), may be omitted if a student has otherwise met the prerequisite for MATH 160. MATH 150 (3) and MATH 155 (3) can be used to satisfy MATH 160 in this minor.

COURSE DESCRIPTIONS (CHEM)

100 - Chemistry Appreciation (3 S.H.)
Chemical concepts presented as lecture-demonstrations for students who wish to gain an appreciation of the chemical world. Meets University Studies requirements; not intended as preparation for other chemistry courses. Does not preclude taking any other chemistry courses for credit. No laboratory. Not open to students with credit in higher numbered chemistry courses. Offered each semester.

106 (3 S.H.), 107 (4 S.H.) - Chemistry in Our World
Intended to introduce students to chemistry and give them an appreciation and understanding of the role chemistry plays in their everyday lives. Topics covered include atomic structure, bonding, water, acid rain, and energy. This course is intended both for University Studies students and as a first course for students who have not had high school chemistry and wish to prepare to take other chemistry classes. Students may elect to take the course with lab (CHEM 107, 4 S.H.) or without lab (CHEM 106, 3 S.H.).

Note: Students may enroll in either CHEM 106 or CHEM 107, but they cannot earn credit for both courses. Offered each semester.

108 - Introductory General Chemistry (4 S.H.)
Intended to introduce the students to chemistry. Three lectures and one laboratory/discussion period per week. Intended to be the first course...
in chemistry for students who have not had high school chemistry and wish to prepare for entrance into CHEM 210 or CHEM 212. Students completing the course may later elect CHEM 210 or 212 for credit or, with the department's permission, they may go directly into CHEM 213. Offered yearly.

190 - Forensic Chemistry (4 S.H.)
This interdisciplinary course in forensic science meets the needs of criminal justice majors as well as students who desire a course that offers a broad scientific experience. This course will offer non-science majors opportunities to see the relevance of chemistry, biology, geology, and physics to their chosen professional life. It will provide an informative overview of techniques used by modern criminalistics labs and offer students a hands-on opportunity to explore the intricacies of how criminal investigation relies on forensic science. Through this course, students will gain an appreciation of how local law enforcement agencies rely on scientific studies for technical field work. Offered yearly.

210 - Chemistry for Health Sciences (5 S.H.)
A study of the principles of general, organic, and biological chemistry with emphasis on the numerous connections between chemistry and human health. Four lectures and one laboratory period per week. Prerequisites: High school chemistry or CHEM 108 and MATH 100 or qualifying score on mathematics placement exam. Recommended for pre-nursing majors. Offered fall and spring semesters.

212, 213 - Principles of Chemistry I, II (4 S.H. Each)
An in-depth study of the principles of chemistry including atomic structure, the chemical bond, solutions, thermodynamics, kinetics, acid-base theory, oxidation-reduction, complex ion equilibrium, and electrochemistry. Organic and inorganic examples are used when appropriate throughout the course, and a short unit on organic chemistry is included. Laboratory and lecture are coordinated. Prerequisite: High school intermediate algebra or concurrent enrollment in MATH 120 or a higher-numbered mathematics course. Offered yearly.

320 - Environmental Chemistry (4 S.H.)
An introductory study of current environmental issues, emphasizing the chemistry and chemical interactions underlying these topics. The topics may include, but are not limited to, global warming, depletion of stratospheric ozone, ground level air chemistry and air pollution, organic chemicals in the environment, toxic metals, chemistry of natural waters, and energy production and its environmental consequences. Lecture and Laboratory. Prerequisite: One year of general chemistry or instructor's permission. Offered yearly.

340 - Organic Chemistry Survey (4 S.H.)
A survey of the chemistry of organic compounds with emphasis on structure, properties, synthesis, and reactions of the major functional group families. Mechanisms of major reaction types are explored. Laboratory emphasizes separation techniques and synthesis. Prerequisites: CHEM 212 and CHEM 213. Not open to students who expect to take CHEM 350. Offered yearly.

341 - Organic and Polymer Chemistry (4 S.H.)
An introduction to the organic chemistry of synthetic polymers. The introduction to nomenclature, properties, synthesis, and characterization of organic compounds is followed by the application of these concepts to commercially important polymeric materials. Laboratory focus on the synthesis and preparation of addition and condensation polymers. Three lecture periods and one laboratory per week. Prerequisite: CHEM 213. Not open to students expecting to take CHEM 350, CHEM 351, and CHEM 410. Offered yearly.

350 (4 S.H.), 351 (5 S.H.) - Principles of Organic Chemistry I, II
A thorough study of the chemistry of organic compounds, with emphasis on structure, properties, synthesis, purification, principles and mechanisms of reactions, instrumental methods, compound identification, and important biological and economic applications. Prerequisites: For CHEM 350: CHEM 212 and CHEM 213; for CHEM 351: CHEM 350 or CHEM 340 or CHEM 341 with instructor's permission. Offered yearly.

354 - Characterization of Organic Compounds (2 S.H.)
Using instrumental methods in the identification of organic compounds. Focus will be on gaining proficiency in instrument use and utilizing them in conjunction with various elucidation techniques. Prerequisite: CHEM 351 or instructor's permission. Offered irregularly.

360 - Chemical Information (2 S.H.)
Finding chemical information by on- and off-line searching of data bases by computer and by hand-searching print-form reference works such as Chemical Abstracts, dictionaries, encyclopedias, index serials, formularies, treatises, and review serials. Lecture topics will also include units on patents, institutional publications and the primary periodical literature. Includes chemical information retrieval from the Internet, the preparation of a bibliography on a chemical topic using exhaustive manual and computer searching of the world's literature. Prerequisite: Credit or concurrent enrollment in CHEM 340 or CHEM 350. Offered yearly.

399 - Chemistry Internship (1-6 S.H.)
Supervised industrial, business, or government experience designed by the WSU chemistry faculty advisor, the work supervisor, and the student. Open only to the chemistry major or minor whose GPA in science and mathematics is 2.5 or better and who receives departmental approval. P/NC option available, but only up to 4 S.H.; may be taken for letter grade. Prerequisite: CHEM 425. Offered yearly.

400 (4 S.H.), 401 (5 S.H.) - Biochemistry I and II
Introduction to the chemistry of living organisms; emphasis on the structure and function of proteins, carbohydrates, lipids, and nucleic acids; enzymatic catalysis, thermodynamics, control and integration of metabolic processes; nucleotide metabolism and expression and transmission of genetic information. Prerequisite for CHEM 400: CHEM 340 or CHEM 350 and CHEM 412 (or instructor's permission); prerequisite for CHEM 401: CHEM 400. Offered yearly.

402 - Biochemistry Laboratory I (1 S.H.)
Experiments accompanying CHEM 401. Laboratory work should be taken concurrently with CHEM 401 but can be taken following successful completion of CHEM 401. Prerequisite: CHEM 400. Offered yearly.

410 - Polymer Chemistry (3 S.H.)
An overview of polymer chemistry is presented. Major topics include polymerization reactions and kinetics, polymer morphology, polymer properties, and polymer characterization. Prerequisite: CHEM 351 or CHEM 340. Credit or concurrent registration in CHEM 412 or ENGR 300 or instructor's permission. Offered yearly.

411 - Synthesis and Characterization of Polymers (3 S.H.)
An in-depth study of polymer synthesis and characterization. The lecture portion of the course will focus on the controlled synthesis of polymeric materials including strategies for controlling polymer molecular weight, polymer architecture, and polymer microstructure. Characterization of polymers using spectroscopy, and different testing techniques will also be covered. The laboratory portion of the course will include synthesis of polymers using traditional addition and condensation polymerization techniques and using more recently developed methods including ROMP and ATRP. Characterization of polymers will include viscometry, thermal analysis, and spectroscopic methods. Prerequisite: CHEM 410. Offered every other year.

412 - Physical Chemistry I (3 S.H.)
States of Matter and Equation of States. Thermodynamics of one component and multi-component systems. Equilibrium. Computer applications. An introduction to quantum mechanics and spectroscopy. Prerequisites: One year each of college chemistry and physics, and credit or concurrent enrollment in Calculus. Offered yearly.

413 - Physical Chemistry Laboratory I (1 S.H.)
Experiments accompanying CHEM 412. Laboratory work should be taken concurrently with CHEM 412 but can be taken following successful completion of the course. Computer applications. Prerequisite: CHEM 412. Offered yearly.

414 - Physical Chemistry II (3 S.H.)

415 - Physical Chemistry Laboratory II (2 S.H.)
Experiments accompanying CHEM 414. Laboratory work should be taken concurrently with CHEM 414 but can be taken following successful completion of the course. Prerequisite: CHEM 414. Offered yearly.

420 - Topics in Industrial Chemistry (2 S.H.)
Applications of chemistry to industry. The chemistry and technology of selected industrial processes. Prerequisites: CHEM 340 or CHEM 350. Offered every two or three years.

425, 426 - Analytical Chemistry I & II (4 S.H. Each)
A sequence of courses stressing modern analytical chemistry. A study of the theory and practice of the quantitative examination of chemical systems. CHEM 425 covers volumetric and fundamental visible spectrophotometric methods. CHEM 426 covers the instrumental methods of UV-vis, emission, and AA spectroscopy, electrical methods, and gas and liquid chromatography. Prerequisite for CHEM 425: one year of chemistry; prerequisites for CHEM 426: CHEM 425 and CHEM 412. Offered yearly.

427 - Topics in Instrumental Chemistry (1-2 S.H.)
Selected topics from the principles and application of the instrumental methods of IR, UV-vis, and AA spectroscopy; NMR and mass spectrometry; gas and liquid chromatography. Prerequisites: Organic and analytical chemistry and instructor's permission. Offered every two or three years.

428 - Chemical Separations (3 S.H.)
A lecture and laboratory course addressing problems encountered in
separating chemical species on both the analytical and production scale. Both theory and practice will be considered. Prerequisite: CHEM 425. Offered irregularly.

430 - Individual Problems in Chemistry (1-3 S.H.)
An opportunity for the qualified advanced undergraduate to work independently on chemical research under the direction of a chemistry faculty member. A careful write-up of results is required. Time-arranged. Prerequisites: 13 semester hours in chemistry and instructor's permission. May not be taken for more than 3 credits per semester; may be repeated to a total of 11 credits. Offered each semester.

431 - Guided Study in Teaching Chemistry (2 S.H.)
An opportunity for the qualified teaching candidate to obtain practical knowledge about and experience teaching chemistry contents, techniques of planning and directly presenting chemical lecture demonstrations, and planning and carrying out student laboratory exercises. Prerequisites: One year of university chemistry and organic chemistry; junior or senior standing. Credits may not be applied toward "electives" category of other programs in chemistry.

436 - Topics in Environmental Chemistry (3 S.H.)
This course covers advanced topics in environmental chemistry. Topics studied will depend upon the interest of the class and may include topics such as acid rain, endocrine disruption, risk assessment, global warming, and bioaccumulation. Prerequisite: CHEM 320 or instructor's permission. Offered every other year.

438 - Medicinal Chemistry (2 S.H.)
An introductory course describing selected topics in the chemistry of synthetic and naturally occurring organic medicinals. Chemical structure and its relationship to biological activity. Lecture and problem-solving discussions. Prerequisite: CHEM 340 or CHEM 350. Offered every two or three years.

439 - Biochemistry of Drug Metabolism (2 S.H.)
An advanced elective that emphasizes the qualitative and quantitative chemistry of drug metabolism. Topics include pharmacokinetics and pharmacodynamics, drug absorption, distribution and excretion, phase I and phase II biotransformation, principles of therapeutics, and toxicology. Prerequisite: CHEM 401 or instructor's permission. Offered every three years.

447 - Advanced Organic Chemistry (2 S.H.)
Chemical kinetics, thermodynamics, stereochemical concepts, and the use of isotopes are applied to organic reaction mechanisms. The study of molecular orbital theory forms the basis for predicting reaction mechanisms. Lecture course. Prerequisites: CHEM 351 and CHEM 412. Offered every two or three years.

450 - Advanced Inorganic Chemistry I (4 S.H.)
Descriptive and theoretical approaches to inorganic reactions and structures with emphasis on structural concepts including symmetry and group theory and molecular orbital theory. Laboratory work includes the preparation of various main group and transition metal compounds and use of modern instruments in characterizing these compounds. Prerequisite: CHEM 412. Offered yearly.

451 - Advanced Inorganic Chemistry II (2 S.H.)
A continuation of the treatment of theoretical and descriptive inorganic chemistry introduced in CHEM 450. Prerequisites: CHEM 414 and CHEM 450. Offered yearly.

465 - History of Chemistry (1 S.H.)
A chemistry course emphasizing the fascinating interplay of ideas during the development of the chemical body of knowledge. Prerequisite: One semester of organic chemistry. Offered irregularly.

470 - Isotope, Nuclear and Radiochemistry (2 S.H.)
Introduction and basic treatment of the nucleus with emphasis on concepts in chemistry. Interactions of radiation with matter. Nuclear structure, stabilities and associated radioactive decay processes. Applications in nuclear reactors, particle accelerators, and medical therapies. Prerequisite: CHEM 412. Offered every two or three years.

472 - Quantum Chemistry and Spectroscopy (2 S.H.)
Description of quantum mechanics and application to spectroscopy of atoms and molecules. Discussion of spectroscopic techniques includes detailed derivations of microwave, infra-red, Raman, electronic, NMR, and ESR spectra. Perturbation Theory and Group Theory are introduced to determine structure of polyatomic molecules. Prerequisite: CHEM 412. Offered every two or three years.

475 - Seminar in Chemistry (1 S.H.)
Students are expected to make oral and poster presentations on literature or laboratory research. Exploration of presentations by persons outside the department is included. Additional outreach opportunities will be scheduled as permitted. Prerequisite: 20 semester hours of chemistry. Offered yearly.

CHILD ADVOCACY STUDIES
Stark Hall, Room 341  (507-457-5131)
Jacqueline Hatlevig (Program Director)
Email: jhatlevig@winona.edu

FACULTY
Jacqueline Hatlevig, Professor, Nursing; B.S.N., Winona State University; M.S.N., Ph.D., University of Wisconsin-Milwaukee; 1987 –
Carole Madland, Professor, Social Work; M.S.W., University of Tennessee-Nashville; B.A., Ph.D., Washington University (St. Louis, Missouri); 1991 –

ASSOCIATED FACULTY
Tamara Berg, Associate Professor, Nursing; B.S.N., Winona State University; M.A., Ph.D., Indiana University, Bloomington; 1995 –
J. Mark Norman, Associate Professor; B.A., M.S., St. Cloud State University; Ph.D., South Dakota State University; 1996 –
Todd Paddock, Assistant Professor; B.S., University of Michigan; M.S., Cornell University; Ph.D., Indiana University; 2004 –

PURPOSE
The Child Advocacy Studies curriculum focuses on experiential, interdisciplinary, ethical, and culturally sensitive content that provides professionals working with children a common knowledge base for responding to child maltreatment. This program focuses on developing students' understanding of the numerous factors that lead to child maltreatment and existing responses to child maltreatment. The goal is to prepare students to work effectively within systems and institutions that respond to these incidents. Students will learn about the various disciplinary responses to child maltreatment and develop a multidisciplinary understanding of the most effective responses. Students completing the courses in this program will be better equipped to carry out the work of agencies and systems (health care, criminal justice, and social services) as they advocate on behalf of the needs of children as victims and survivors of child abuse.

B.A. MINOR CHILD ADVOCACY STUDIES (CAST)
21 S.H.

REQUIRED COURSES—CAST (18 S.H.)
301 Perspectives on Child Maltreatment & Child Advocacy (3)
302 Global Child Advocacy Issues (3)
401 Professional & System Responses to Child Maltreatment (4)
402 Responding to the Survivor of Child Abuse and Survivor Responses (4)
407 CAST Capstone Experience (4)

ELECTIVES—CAST (3 S.H.)
403 Child Exploitation, Pornography & the Internet (3)
404 Sociology of Child Poverty (3)
405 Gender, Violence and Society (4)
406 Child Advocacy Research Studies (3)

Students must apply for the child advocacy studies minor; applications for the minor are accepted in the fall and spring semesters. Please contact the Program Director for information about the application process. Students who wish to pursue the child advocacy studies certification are not required to complete an application.

* “Additional Requirements” course as defined in Item 3, page 18
CHILD ADVOCACY STUDIES CERTIFICATION

Students who complete all three CAST certification courses receive a certificate of completion from WSU and the National Child Protection Training Center (NCPTTC).

REQUIRED CERTIFICATION COURSES – CAST (11 S.H.)

301 Perspectives on Child Maltreatment & Child Advocacy (3)
401 Professional & System Responses to Child Maltreatment (4)
402 Responding to the Survivor of Child Abuse and Survivor Response (4)

CERTIFICATION AND MINOR REQUIREMENTS

Students must receive a “C” or better in each course to obtain certification. In addition, students are expected to adhere to the ethical standards of the program.

COURSE DESCRIPTIONS (CAST)

301 - Perspectives on Child Maltreatment & Child Advocacy (3 S.H.)

This is the introductory course for child advocacy studies. This course covers the history, comparative perspectives, legal framework, responses to child maltreatment, skills necessary to do the work, other pertinent issues pertaining to child maltreatment and child advocacy, and the future. The field of child maltreatment is fraught with controversy. Much of the class focuses on these controversies. The approach of the course will be from a variety of professional perspectives, including that of a prosecuting attorney versus a defense attorney. The course is designed for students majoring in criminal justice, education, social work, sociology, psychology, nursing, paralegal, or other areas in which knowledge of child maltreatment and advocating for children might be necessary. Much of the work will be hands-on. Prerequisite: None. CAST 301 is in the University Studies Critical Analysis category.

302 - Global Child Advocacy Issues (3 S.H.)

This is a core course for the child advocacy studies minor. The purpose is to prepare students to recognize child advocacy issues around the world. The course is designed for students majoring in criminal justice, education, social work, sociology, psychology, nursing, paralegal, or other areas in which knowledge of child maltreatment and advocating for children will be necessary. Multidisciplinary approaches to advocacy in different countries throughout the world will be presented and discussed. Prerequisite: None. CAST 302 is in the University Studies Unity and Diversity, Global Perspective category.

401 - Professional & System Responses to Child Maltreatment (4 S.H.)

This course focuses on the responses of professionals to allegations of child maltreatment. The purpose is to expand the student’s knowledge and skills in identifying, investigating, and prosecuting child maltreatment. The course is designed for students majoring in criminal justice, education, social work, sociology, psychology, nursing, paralegal, and other areas in which knowledge of child maltreatment and advocating for children will be necessary. Students will receive competency-based skills training such as forensic interviewing, documentation, and so on. Recommended prerequisites: Developmental psychology and communication courses.

402 - Responding to the Survivor of Child Abuse and Survivor Response (4 S.H.)

The purpose of this course is to prepare students to recognize the effects of child maltreatment and to apply intervention strategies for children and their families. Multidisciplinary approaches to prevention, advocacy, and treatment of child maltreatment survivors will be presented and discussed. The course is designed for students majoring in criminal justice, education, social work, sociology, psychology, nursing, paralegal, or other areas in which knowledge of child maltreatment and advocating for children will be necessary. The experiential lab for this course involves courtroom observation and interaction with children. Prerequisites: CAST 301, CAST 401, or instructor's permission.

403 - Child Exploitation, Pornography & the Internet (3 S.H.)

The overall goal of this course is the study and analysis of child sexual abuse and the manner in which human and social services respond to this problem. Specifically, this course will examine the predatory actions of offenders who engage in child sexual abuse and exploitation. Included in this assessment is an understanding of how perpetrators use computers, the Internet, and emerging technologies to exploit children. Students will also learn how social services and the criminal justice system respond to this phenomenon. Thus, the student will understand and appreciate the roles of law enforcement, forensics, courts, social workers, and health service providers in the detection, investigation, and prosecution of this form of child exploitation.

404 - Sociology of Child Poverty (3 S.H.)

Students will analyze poverty and child poverty in the U.S. while placing both in an international and historical context. They will understand the demographics of poverty and the effects of poverty on children. They will critically evaluate sociological research and theories for poverty and child poverty. Students will also evaluate societal responses to poverty and child poverty, particularly as they relate to child maltreatment. This course is useful for students in fields such as nursing, criminal justice, education, social work, sociology, pre-medicine, and pre-law.

405 - Gender, Violence and Society (4 S.H.)

This course introduces students to the roots of gender-based violence, the political and cultural structures that perpetuate it; the course also explores how this violence might be brought to an end. Students will investigate the local and global impact of violence; how gendered violence intersects with race, class, sexuality, age, physical ability and the oppressions that are linked to these identities; and strategies for addressing gender-based violence. The overlap between gender-based violence and child maltreatment and neglect will be addressed under each topic. As part of the class, students will complete a 45-hour advocacy training requirement and 15 hours of volunteer advocacy work offered in partnership with the Women's Resource Center of Winona. Course time will be divided between 2 credits of lab and 2 credits of theory. Prerequisite: CAST 301 or instructor’s permission.

406 - Child Advocacy Research Studies (3 S.H.)

Students will read, interpret, and evaluate the significance of research findings to child advocacy study. The course helps students understand the role of research and information technology in providing evidence-based practice for child advocacy study within their respective disciplines. Students work in small groups to critique research studies and synthesize their knowledge of the research process in the analysis of several studies. These studies focus on concepts relevant to child advocacy such as the effects of maltreatment, prevention and education; cultural elements of practice; as well as other factors that influence practice with families affected by maltreatment. This course also examines research design, ethical issues in research, the professional’s role in research, and the application of technology. Students will explore the use of computers and technology for processing and managing data. Prerequisites: CAST 301, 401, and 402, or instructor’s permission.

407 - CAST Capstone Experience (4 S.H.)

This course is an intense site-based experience of the student’s choice designed to encapsulate the essence of baccalaureate professional role development in an internship experience. This synthesis course allows students to expand their understanding of major concepts of child advocacy, experiential learning, and evidence-based practice in a setting of their choice. A multidisciplinary approach will be emphasized as students focus on ethical decision-making and cultural sensitivity with clients in a community location. Students work with preceptors in agencies and develop a project addressing a need within that agency. Prerequisites: CAST 301, 401, and 402 or instructor’s permission.
CLINICAL LABORATORY SCIENCE
Pasteur Hall, Room 220 (507-457-5270)
Program Director: Dr. Judith A. Loewen (507-457-2993)

PROGRAM OVERVIEW
The Clinical Laboratory Science (CLS) Program is a four-year course of instruction administered by the Biology Department and the College of Science and Engineering. CLS includes both coursework at the WSU campus and clinical training at an approved and affiliated clinical site. Upon satisfactory completion of the program, the student is eligible to apply for examination by two certifying agencies, the National Accrediting Agency for Clinical Laboratory Science (NAACLS) and the Committee on Allied Health Education and Accreditation (CAHEA). Successful completion of these exams leads to certification as a Clinical Laboratory Scientist/Medical Technologist.

First-year students entering this program should consult with the Program Director soon after arriving on campus. Other students wishing to enter this program must consult with the Program Director prior to declaring this major.

CAREER OPPORTUNITIES
Individuals with a Bachelor of Science in Clinical Laboratory Science and certification are employed in hospital and clinical settings, where they are responsible for a variety of analyses of fluids and other types of specimens. They may also specialize in one area, such as blood banking or clinical microbiology. This degree also provides the appropriate preparation for students interested in continuing their education toward a graduate degree or a certificate field such as physiology, microbiology, or cytogenetics.

UNIVERSITY STUDIES FLAG REQUIREMENTS
Students may use flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student’s major or minor program. The Biology Department offers the following flag courses in the University Studies Program:

FLAG

<table>
<thead>
<tr>
<th>Oral</th>
<th>Writing</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 307 Cell Biology Laboratory (1)</td>
<td>BIOL 308 Cell Biology (3)</td>
</tr>
<tr>
<td>BIOL 309 Developmental Biology (3)</td>
<td>BIOL 323 General Physiology (5)</td>
</tr>
<tr>
<td>BIOL 315 Environmental Biology (3)</td>
<td>BIOL 415 Ecology of Large Rivers (4)</td>
</tr>
<tr>
<td>BIOL 409 General Microbiology (4)</td>
<td>BIOL 431 Molecular Biology Lab (4)</td>
</tr>
<tr>
<td>BIOL 423 Ecosystem Ecology (3)</td>
<td>BIOL 445 Immunology (3)</td>
</tr>
<tr>
<td>BIOL 460 General Parasitology (3)</td>
<td>BIOL 499 Capstone Project (1-3)</td>
</tr>
<tr>
<td>BIOL 462 Parasitology (4)</td>
<td>Flag courses that can be used to satisfy requirements for the Clinical Laboratory Science major are identified in the lists of required courses and electives in this section.</td>
</tr>
</tbody>
</table>

Math/Critical Analysis

| BIOL 310 Genetics (3) |

B.S. MAJOR – CLINICAL LABORATORY SCIENCE (CLS) (82 S.H.) No Minor Required

REQUIRED MAJOR COURSES – BIOL (43 S.H.)

| 201 | Human Anatomy (4) |
| 241 | Basics of Life (4) |
| 242 | Organismal Diversity (4) |
| 307 | Cell Biology Lab (1) OR |
| | BIOL 311, Genetic Laboratory (1) |
| 308 | Cell Biology (3) |
| 310 | Genetics (3) |
| 323 | General Physiology (4) |
| 324 | General Physiology Lab (2) |
| 333 | Clinical Laboratory Techniques (3) |
| 409 | General Microbiology (4) |
| 440 | Clinical Physiology (3) |
| 442 | Clinical Laboratory Management (1) |
| 443 | Urinalysis (1) |
| 444 | Immunochemistry and Hematology (2) |
| 445 | Immunology (3) |
| 446 | Immunology Laboratory (1) |

Notes:

1. BIOL 241 and 242 should be taken prior to BIOL 201, 307, 308 and 310.
2. BIOL 308 and 310 should be taken prior to or concurrently with BIOL 307 or 311.
3. BIOL 323 should be taken after BIOL 201 and should be taken prior to or concurrently with BIOL 324.
4. BIOL 409, 440, 442, 443, 444, 445, and 446 should be taken after BIOL 308 and 310.

ADDITIONAL REQUIREMENTS (23 S.H.)

| CHEM 212 Principles of Chemistry I (4) |
| CHEM 213 Principles of Chemistry II (4) |
| CHEM 340 Organic Chemistry Survey (4) |
| CHEM 400 Biochemistry I (4) OR CHEM 425 Analytical Chemistry I (4) |
| MATH 120 Precalculus (4) |
| STAT 305 Biometry (3) |

Notes:

1. MATH 150 and MATH 155 (6 S.H.) may be substituted for MATH 120.
2. CHEM 350 and 351 (9 S.H.) may be substituted for CHEM 340.

CLINICAL EDUCATION (16 S.H.)

| BIOL 450 Medical Technology I (12) |
| BIOL 453 Medical Technology IV (4) |

Note: The clinical training will be completed at an affiliated clinical training site.

OTHER ELECTIVES

Some clinical schools require a course in statistics; therefore, it is recommended that students select STAT 305 as an elective in the “Additional Requirements” above.
COMMUNICATION STUDIES
Performing Arts Center, Room 215 (507-457-5230)
www.winona.edu/communicationstudies
Edward Reilly (Chairperson)

FACULTY
Emilie Falc, Assistant Professor; B.A., University of Illinois; M.A., Ph.D., Ohio University; 2001 –
Lisa Glueck, Associate Professor; B.A., M.A., Washington State University, Pullman; Ph.D., University of Wisconsin; 1993 –
Susan Hatfield, Professor; B.S., M.A., Miami University (OH); Ph.D., University of Minnesota-Twin Cities; 1981 –
Amy Hermanson, Associate Professor; B.A., Concordia College; M.A., Michigan State University; Ph.D., University of Denver; 2000 –
Kelly Herold, Associate Professor; B.C.S., Dickinson State University (ND); M.A., University of Northern Colorado, Greeley; Ph.D., University of Southern Mississippi, Hattiesburg; 1996 –
Daniel Lintin, Associate Professor; B.A., Buena Vista College; M.A., Ph.D., University of Minnesota-Twin Cities; 1994 –
Rita Raboi-Gilchrest, Associate Professor; B.A., University of Wisconsin; M.A., Ph.D., Ohio University; 2000 –
Edward Reilly, Associate Professor; B.A., Northern Illinois University; M.A., University of Maine; Ph.D., Louisiana State University; 1997 –
Tammy Swenson Lepper, Associate Professor; B.A., Concordia College; M.A., Ph.D., University of Minnesota-Twin Cities; 2004 –
Jin Xu, Assistant Professor; B.A., Changsha Tiedao University, China; M.A., Southwest China Normal University, China; M.S., Ph.D., Bowling Green State University; 2004 –

PURPOSE
The Department of Communication Studies (CMST) provides academic experiences conducive to intellectual, professional, and personal growth. Communication competence is increasingly recognized as necessary for personal and professional success. The department offers a major and minor in communication studies, as well as a minor in intercultural communication. CMST also offers a teaching major with the English Department; those requirements are listed in the English Department's section of the catalog.
Graduates in communication studies are well prepared for employment in a service-oriented economy. Recent graduates enjoy careers in a variety of fields including training and development, consulting, personnel, human resource development, sales, and teaching. A significant number of graduates also attend graduate school in areas of communication, counseling, student personnel, and law.
The department offers minors designed especially for those students who recognize the importance of effective communication skills in their chosen careers. These minors should be of special interest to students majoring in business, education, history, mass communication, nursing, political science, psychology, and social work; and sociology; however, students from all majors will find the course sequence for the minor beneficial. Students with a minor in communication studies are required to meet with their academic advisor every semester. Students majoring in communication studies may not minor in the department.

SCHOLARSHIPS AND HONORS PROGRAM
Scholarships for juniors and first-semester seniors are available through a fund established in the name of Gary Evans. Applications are taken early in the spring semester.
The department offers an Honors Program. Students with a minimum overall GPA of 3.20 and a minimum major GPA of 3.60 are encouraged to see the department chairperson for details. In addition, the department sponsors a chapter of Lambda Pi Eta, the honorary society of the National Communication Association.

PASS/NO CREDIT (P/NC) COURSES
Except for CMST 399 (Internship), CMST majors and minors must take all courses in their major, minor, options, concentrations, and licensures on a grade-only basis. The P/NC option is available to non-majors except for CMST 191 and CMST 499. Courses offered on a pass/no credit only or grade only basis are so designated in the course descriptions.

GRADUATION REQUIREMENTS
Students declaring a major or minor in CMST should anticipate a minimum of four academic semesters (not including summer sessions) to complete CMST courses in sequence. Students majoring in communication studies must earn a minimum GPA of 2.50 in their major; no grade below a “C” is accepted. These standards apply to both CMST courses and courses taken through other departments to fulfill CMST major requirements.

UNIVERSITY STUDIES FLAG REQUIREMENTS
Students may use flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student's major or minor program. The Department of Communication Studies offers the following flag courses in the University Studies Program:

FLAG
Oral
CMST 451 Topics in Communication Studies (3)
CMST 452 Topics in Public Communication (3)
Math/Critical Analysis
CMST 380 Communication Research Methods (3)
Writing
CMST 371 Discussion and Small Group Dynamics (3)
CMST 485 Senior Seminar in Communication Theory (3)
Flag courses that can be used to satisfy Communication Studies major/minor requirements are identified in the lists of required courses and electives in this section.
B.A. MAJOR - COMMUNICATION STUDIES (CS)  
42 S.H. (Minor Required)

REQUIRED COURSES (33 S.H.)

Foundations (9 S.H.)
- CMST 281 Intercultural Communication (3)
- CMST 282 Introduction to Communication Studies (3)
- CMST 283 Introduction to Rhetorical Studies (3)

Tools (9 S.H.)
- CMST 380 Communication Research Methods (3)
- Choose one of the following:
  - BUSA 220 Business Statistics (3)
  - PSY 231 Statistics (3)
  - STAT 110 Fundamentals of Statistics (3) (Recommended)
  - STAT 210 Statistics (3)

Choose one of the following:
- CMST 282 Introduction to Communication Studies (3)
  - Writing in Communities (3)
- ENG 210 Advanced Expository Writing (3)
- ENG 211 Writing in Communities (3)
- ENG 439 Technical Writing (3)

Theories (9 S.H.)

Choose three of the following:
- CMST 366 Organizational Communication (3)
- CMST 371 Discussion and Small Group Dynamics (3)
- CMST 375 Argumentation and Advocacy (3)
- CMST 387 Interpersonal Communication (3)
- CMST 389 Persuasive Communication (3)
- CMST 451 Topics in Communication Studies (3) OR
- CMST 452 Topics in Public Communication (3)

Topics (3 S.H.)
- CMST 451 Topics in Communication Studies (3) OR

Capstone (3 S.H.)
- CMST 485 Senior Seminar in Communication Theory (3)

ELECTIVES (9 S.H.)

Choose three additional CMST courses, excluding CMST 191. At least two courses must be at the 300- or 400-level. CMST 451 and/or 452 may be used more than once provided they cover different topics. Only three credits of CMST 399 can be used toward this requirement. Theory courses not used for the theory requirement may be used to meet this requirement.

B.A. MINOR - COMMUNICATION STUDIES (CS)

21 S.H.

REQUIRED COURSES (12 S.H.)

Foundations (6 S.H.)
- CMST 282 Introduction to Communication Studies (3)
- CMST 283 Introduction to Rhetorical Studies (3)

Foundations/Theories (6 S.H.)

Choose two of the following:
- CMST 281 Intercultural Communication (3)
- CMST 366 Organizational Communication (3)
- CMST 371 Discussion and Small Group Dynamics (3)
- CMST 375 Argumentation and Advocacy (3)
- CMST 387 Interpersonal Communication (3)
- CMST 389 Persuasive Communication (3)

ELECTIVES (9 S.H.)

Choose three additional CMST courses, excluding CMST 191 and 399. At least two courses must be at the 300- or 400-level. CMST 451 and/or 452 can be used more than once provided they cover different topics. Foundation/theory courses not used for the foundation and/or theory requirement as listed above may be used to meet the elective requirement.

B.A. MINOR - INTERCULTURAL COMMUNICATION (ITCO)  
21 S.H.

Note: CMST 381 is offered every third semester, not including summer sessions. Students should check with the department to see what semester it will be offered. CMST 381 will not be offered as an arranged course or as an independent study. Students who plan to graduate before it will be offered should choose a different minor. CMST 281 is a prerequisite for CMST 381.

REQUIRED COURSES (15 S.H.)

- CMST 281 Intercultural Communication (3)
- CMST 381 Advanced Intercultural and International Communication (3)

Choose one of the following:
- CMST 282 Introduction to Communication Studies (3) OR

B.S. MAJOR - COMMUNICATION ARTS AND LITERATURE (Teaching) (CALT)

Requirements for this major are listed in English Department program description (page 104).

COUSE DESCRIPTIONS (CMST)

190 - Speech Activities (1-2 S.H.)
A concentrated laboratory course in a specific area of speech, closely coordinated with an instructor's current project. May be taken for a total of 3 S.H. Offered yearly.

191 - Introduction to Public Speaking (3 S.H.)
Emphasis on selection and organization of materials, delivery of common types of speeches, listening skills, and analysis and evaluation of presentations. Grade only. Offered each semester.

266 - Professional Communication Skills (3 S.H.)
Exploration of the theory and skills necessary for effective communication in professional situations. Emphasis on interviewing, group meetings, and oral communication including presentational speaking and use of presentational technology. Prerequisite: CMST 191. Offered yearly.

281 - Intercultural Communication (3 S.H.)
Investigates cultural processes influencing communication. Principles of communication theory and practice applied to intercultural communication situations including co-cultures within the U.S. as well as other cultures of the world. Offered each semester.

282 - Introduction to Communication Studies (3 S.H.)
Provides an overview of the basic communication theories applicable to a number of communication contexts (including small groups, interpersonal, and organizational). This course moves beyond CMST 191 by emphasizing theories instead of skills. Offered each semester.

* "Additional Requirements" course as defined in Item 3, page 18
283 - Introduction to Rhetorical Studies (3 S.H.)
Provides an introduction to the study of rhetoric and public address. The primary focus is on the manner in which people use communication to influence the behavior of others. It includes a broad survey of rhetorical theorists from Plato to the post-modernists. Prerequisite: CMST 191 or sophomore standing. Offered each semester.

287 - Conflict and Communication (3 S.H.)
This course examines the impact of communication behaviors on conflict escalation and resolution. Principles of negotiation and conflict management are examined within the context of interpersonal, inter-cultural, and international relationships. Offered yearly.

289 - Gender and Communication (3 S.H.)
A cultural approach to the study of males' and females' communication styles including language choice, creation of meaning, interpretation of reality, interaction patterns, nonverbal messages, and metaphors. Explores the similarities and differences between the male and the female communication culture in a variety of interpersonal and situational contexts including families, organizations, peer groups, friendships, and romantic relationships. Offered yearly.

290 - Disability Communication and Culture (3 S.H.)
Provides a comprehensive review of communication-based research examining disability in the contexts of interpersonal, organizational, and media with an emphasis in cultural communication differences. Offered alternate years.

291 - Topics in Multicultural Communication (3 S.H.)
A study of the communication and culture of groups from outside of the United States or of co-cultural groups within the United States. Each class will have a specific cultural focus. May be repeated with different topics. Offered two out of three semesters.

296 - Fundamentals of Interviewing (3 S.H.)
The interview as a specialized form of communication. Emphasis on skills and strategies of interviewer and interviewee in a variety of situations (survey, journalistic, helping, employment, etc.). Course tailored to meet specific needs of students. Prerequisite: CMST 191. Offered yearly.

366 - Organizational Communication (3 S.H.)
Facilitates understanding and promotes better communication in organizations. Emphasizes role of internal and external messages in the process of organizing, change, climate formation, culture and action. Prerequisites: CMST 191 and 282 or instructor's permission for non-majors. Offered each semester.

371 - Discussion and Small Group Dynamics (3 S.H.)
The study of interaction patterns and networks to gain practical and theoretical perspectives upon small-group theory. Prerequisites: CMST 191 and CMST 282 or instructor's permission for non-majors. Offered each semester.

375 - Argumentation and Advocacy (3 S.H.)
The study of "reason-giving" as a process for decision-making and the creation of social knowledge. Participants in the class use research, discussion, and practice in argumentative speaking and writing to develop critical thinking skills. Prerequisites: CMST 191 and CMST 282 or CMST 283 or instructor's permission for non-majors. Offered yearly.

380 - Communication Research Methods (3 S.H.)
This course surveys the various qualitative and quantitative approaches used in communication research, providing a foundation for application in a research project of the student's choosing. Prerequisites: One 300-level theory course. (See list of theory courses under major.) Offered each semester.

381 - Advanced Intercultural and International Communication (3 S.H.)
Continuation of CMST 281, but emphasizes how to handle communication breakdowns that occur because of different cultural norms, customs, attitudes, and values. Valuable to those who plan to study, travel, or work abroad. Prerequisite: CMST 281 or instructor's permission. Offered every third semester.

387 - Interpersonal Communication (3 S.H.)
Designed to promote effective interpersonal communication through the study of theories such as self-perception, relationship development, and relationship deterioration. Topics may include conflict management, gender issues in communication, individual communication styles, and maintaining relationships. Prerequisites: CMST 191, CMST 282 or instructor's permission for non-majors. Offered each semester.

389 - Persuasive Communication (3 S.H.)
Introduces students to the theories of persuasion and social influence. Source, message, receiver and environmental factors are studied, and their effects upon the persuasive process analyzed. Prerequisites: CMST 191, CMST 282 and CMST 283 or instructor's permission for non-majors. Offered each semester.

399 - Internship (1-12 S.H.)
Supervised work experience designed by advisor, student, and employer. Prerequisite: Instructor's permission and a minimum major GPA of 2.50. CMST majors only. P/NC only. Offered on demand.

451 - Topics in Communication Studies (3 S.H.)
An in-depth specific course. Topics vary. Prerequisite: CMST 191 and 282 or instructor's permission for non-majors. May be repeated with different topics. Offered yearly.

452 - Topics in Public Communication (3 S.H.)
An in-depth study of topics of concern in rhetoric and public address. Topics vary. Prerequisite: CMST 191 and 283 or instructor's permission for non-majors. May be repeated with different topics. Offered yearly.

485 - Senior Seminar in Communication Theory (3 S.H.)
In-depth study and research on individually selected topics. Prerequisite: CMST 380, ENG 111, an additional 300-level theory course (see list of theory courses under major), and instructor's permission. Offered each semester.

493 - Teaching and Coaching Oral Communication (3 S.H.)
Assists prospective teachers in exploring techniques common to classroom instruction in oral communication. Emphasis on enhancing students' skills and knowledge and assessing students' work. Involvement in coaching co-curricular speech, including organization and management of festivals and tournaments. Prerequisites: CMST 191, CMST 282, and EDUC 312. Offered yearly.

499 - Independent Studies in CMST (1-6 S.H.)
Offers advanced students an opportunity to study independently in an area of special interest to them. May be repeated for a total of 6 semester hours. A maximum of 3 semester hours may be applied toward electives in the major or minor. Prerequisite: Instructor's permission. Grade only. Offered on demand.
**COMPUTER SCIENCE**

Watkins Hall, Room 103 (507-457-5385)
http://cs.winona.edu

Tim Gegg-Harrison (Chairperson)

**FACULTY**

Nicole Anderson, Assistant Professor; B.S., M.S., University of Iowa; Ph.D., University of Utah; 2008 –
Gary Bunce, Professor; B.S., North Dakota State University; M.A., Ph.D., University of New Mexico; 1971 –
Gerald W. Cichanowski, Professor; B.A., Winona State University; M.S., University of Minnesota; Ph.D., Michigan State University; 1983 –
Narayan Debnath, Professor; B.S., M.Phil., Calcutta University; M.S., Visva Bharati University; M.S., East Carolina University; M.S., Ohio State University; Ph.D., D.Sc., Jadavpur University; 1989 –
Joan Francioni, Professor; B.S., University of New Orleans; M.S., Ph.D., Florida State University; 1998 –
Tim Gegg-Harrison, Professor; B.A., University of Missouri-Columbia; M.S., Ohio State University; Ph.D., Duke University; 1992 –
Studemir Jevanger, Professor; B.E., Burdett University; M.S., Ph.D., Louisiana State University and A & M College; 1989 –
Chi-Cheng Lin, Professor; B.S., National Chiao-Tung University; M.S., University of Minnesota-Duluth; Ph.D., University of Pittsburgh; 1997 –
Eugene Lundak, Associate Professor; B.S., M.S., Winona State University; M.S., University of Evansville (Indiana); 1985 –
Hugh F. Ouellette, Professor; B.S., Western Montana College; M.A., University of Illinois; M.A., Ball State University; Ed.D., University of Northern Colorado; 1972 –
Paul Schumacher, Associate Professor; B.A., M.Ed., St. Mary’s College of Minnesota; M.A.T., Stanford University; 1988 –
Mingrui Zhang, Associate Professor, B.S.E., E., University of Minnesota-Duluth; M.S.C.S., Ph.D., University of South Florida; 1999 –

**PURPOSE**

The rapid spread of computers and information technology continues to generate a need for highly trained workers to design and develop new hardware and software systems and to incorporate new technologies into existing systems. According to the U.S. Bureau of Labor Statistics, “Computer systems analysts, database administrators, and computer scientists are expected to be among the fastest growing occupations through 2012. Employment of these computer specialists is expected to grow much faster than the average for all occupations as organizations continue to adopt and integrate increasingly sophisticated technologies.” The Bureau also points out that rapidly changing technology requires an increasing level of skill and education on the part of employees. In addition to technical knowledge, companies want professionals who have communication and other interpersonal skills and can adapt their problem-solving skills to different situations.

The Computer Science program at WSU is designed to prepare students in exactly these ways. As such, our majors take courses to develop not only their programming skills and technical knowledge, but also their communication and critical thinking skills. Students are also given opportunities, both inside and outside the classroom, to apply their knowledge to real-world problems. Students take applied computer science courses/tracks relative to areas such as bioinformatics, business, psychology, and geology. Through service-learning, independent research projects, and internships, they also have the opportunity to work one-on-one with faculty in specialized areas, such as digital image processing, computer assistive technology, game technology, embedded systems, database design, web programming, software engineering, and networking. By combining these opportunities, the department is able to prepare students for long-term success in the computer science field.

**COMPUTER SCIENCE MAJOR**

Computer science majors choose between two options: Computer Science and Applied Computer Science. Both options require a common core set of courses designed to give students a fundamental understanding of both theoretical and applied computer science. Upper-level courses within each option build on these concepts to provide depth in particular areas. As such, all computer science majors are prepared for computer science careers and, if they desire, further graduate study in computer-related fields.

The Computer Science option allows students to study the technical and theoretical aspects of computer science and software development in depth. Students in this option take two semesters of calculus, one course in physics, and nine upper-level computer science (CS) courses beyond the core. Required CS courses include Operating Systems, Programming Languages, and Theory of Computation.

The Applied Computer Science option allows students to study computer science concepts in the context of an applied area. Students choose a specific track in this option and, in addition to the core, take courses in an applied area, CS courses tied directly to the applied area, and CS electives. Currently, the department offers four tracks: Bioinformatics, Computer Information Systems, Geographic Information Technology, and Human Computer Interaction.

- **Bioinformatics** is the study of using computational tools and computer technologies to model, analyze, store, retrieve, manage, present, and visualize biological data. Primarily, the data to be processed are huge amounts of molecular biology data such as DNA sequences and proteins.
- **Computer Information Systems** involves the study of business-related processes and software. An integral component of this track is web programming—both client-side and server-side technologies, and also component-based reusable software architectures. These topics are important in the development of software to support E-business applications.
- **Geographic Information Technology (GIT)** involves the development of software to support the rapidly growing field of Geographic Information Systems (GIS). GIS uses digital technology to combine maps and images with computer databases. As such, GIS has a broad range of applications that allow businesses, engineers, and governments to make quicker and more informed decisions.
- **Human Computer Interaction (HCI)** is an interdisciplinary field that attempts to understand the tendencies and limitations of humans in order to design and develop effective software that is user-friendly. As such, a successful HCI computer scientist must be well-versed in both computer science and psychology.

**SCHEDULING RECOMMENDATIONS**

A student who is interested in becoming a computer science major should ask to be assigned an advisor as soon as possible. All prospective and current computer science majors, including incoming first-year and transfer students, should consult a computer science advisor before registering.

**GRADUATION REQUIREMENTS**

For a checklist of the University’s graduation requirements, see page 23. Specific requirements for Computer Science majors/minors are as follows:

1. Students must take all CS courses required for their major. The cumulative GPA for all computer science major and minor requirements and electives must be at least 2.50, and each course (except CS 491) must be completed with a grade of “C” or better.
2. At least 18 credit hours of 300- and 400-level CS courses, with at least 12 credit hours beyond the computer science core requirements, must be earned from WSU. Courses taken through the Minnesota State University Common Market Program do not satisfy this requirement.

**GRADUATION WITH HONORS**

For graduation with honors in computer science, a student must:

1. Complete one of the following majors: Computer Science Option or Applied Computer Science Option
2. Have an overall GPA of 3.0
3. Have a WSU computer science GPA of 3.25
4. Complete an honors project or thesis
The student may either take CS 495 to develop an honors thesis or work independently with an advisor. In the latter case, the student must find a second reader for the project/thesis. Advisors and readers must be regular WSU faculty members unless a waiver is obtained from the department. With the advisor or as part of CS 495, the student prepares and submits a proposal; upon approval, the completed project/thesis is presented to the department. A copy of the project/thesis must be submitted to the department library.

**REPEATED COURSE POLICY**

Students are allowed to attempt a particular computer science course no more than three times. For the purpose of this policy, an “attempt” occurs each time a student’s name appears on the final grade roster for a course.

**PREREQUISITES**

The prerequisites for computer science courses must be met with a “C” grade or better. Students who register for a course, but who have not met the prerequisites with a grade of “C” or better before the course begins, must drop the course.

**PASS/NO CREDIT (P/NC) COURSES**

Except for CS 491 (Practicum in Computer Science), students must take all courses for the major/minor on a grade-only basis. The P/NC option is available to non-majors unless otherwise noted. Courses offered on a pass/no credit-only or grade-only basis are so designated in the course descriptions.

**WSU-ROCHESTER**

Some of the department’s majors and the minor are available through the 2+2 Program at WSU-Rochester. Program articulations appear in the “WSU-Rochester” section:

- 2+2 Computer Information Systems (page 38)
- 2+2 Computer Science (page 39)
- 2+2 Computer Science - Bioinformatics (page 39)

**COMPUTER SCIENCE PRACTICUM**

WSU’s computer science practicum provides computer science majors with experience in a non-academic setting. It is intended to serve as an introduction to an application environment as well as to solidify many of the concepts learned in the classroom. For these reasons, it is to be taken only by students who are nearing the end of their program of study and who have little or no previous work experience. For those students who are currently employed, the practicum must provide them with work experience that is substantially different from any previous or current work experience. Students must apply for the practicum and be approved before beginning the work experience in order to receive credit for the practicum.

**UNIVERSITY STUDIES FLAG REQUIREMENTS**

Students may use flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student’s major or minor program. The Department of Computer Science offers the following flag courses in the University Studies Program:

**FLAG**

- **Oral**
  - CS 411 Software Testing (3)
  - CS 471 Object Oriented Design and Development (3)
- **Math/Critical Analysis**
  - CS 341 Data Structures (4)
- **Writing**
  - CS 385 Applied Database Management Systems (3)
  - CS 410 Software Engineering (3)
  - CS 495 Computer Science Research Seminar (3)

Flag courses that can be used to satisfy computer science major/minor requirements are identified in the lists of required courses and electives in this section.

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**B.S. MAJOR - COMPUTER SCIENCE**

68-69 S.H. (No Minor Required)

**COMPUTER SCIENCE CORE – Required for All Options (32 S.H.)**

- Computer Science – CS
  - 234 Algorithms and Problem Solving I (4)
  - 250 Algorithms and Problem Solving II (4)
  - 275 Mathematical Foundations of Algorithms (4)
  - 310 Social Implications of Computing (3)
  - 341 Data Structures (4)
  - 375 Computer Systems (4)
  - 385 Applied Database Management Systems (3)
  - 410 Software Engineering (3)
  - 471 Object Oriented Design and Development (3)

**COMPUTER SCIENCE ELECTIVES – Available to All Options**

- Computer Science – CS
  - 313 Networking and Telecommunications (3)
  - 344 Introduction to Web Programming (3)
  - Choose either of the following:
    - 368 Introduction to Bioinformatics (3)
    - 369 Spatial Information Processing (3)
  - 405 Operating Systems (3)
  - 411 Software Testing (3)
  - 413 Advanced Networking and Telecommunications (3)
  - 415 Principles of Programming Languages (3)
  - 420 Computer Architecture (3)
  - 425 Numerical Analysis (4)
  - 430 Computer Graphics (3)
  - 433 Digital Image Processing (3)
  - 435 Theory of Computation (3)
  - 440 Theory of Algorithms (3)
  - 444 Human Computer Interaction (3)
  - 445 Artificial Intelligence (3)
  - 450 Compilers (3)
  - 465 Topics: Computing Theory (1-3)
  - 466 Topics: General Computing Applications (1-3)
  - 467 Topics: Information Systems Applications (1-3)
  - 468 Algorithms in Bioinformatics (3)
  - 469 Algorithms in Geographic Information Technology (3)
  - 472 Reusable Software Architectures (3)
  - 476 Distributed Systems: Concepts and Design (3)
  - 482 Internet/Web Architecture and Development (3)
  - 485 Database Systems Design (3)
  - 491 Practicum in Computer Science (6)‡
  - 495 Computer Science Research Seminar (3)
  - 333 Microprocessor Electronics (4)

‡ Only 3 credits may be applied to the major or minor.

**COMPUTER SCIENCE OPTION (CSCS)**

37 S.H. in addition to core requirements above (No Minor Required)

**REQUIREMENTS (19 S.H.)**

- Computer Science – CS (9 S.H.)
  - 405 Operating Systems (3)
  - 415 Principles of Programming Languages (3)
  - 435 Theory of Computation (3)
Mathematics – MATH (8 S.H.)
160  Calculus I (4)
165  Calculus II (4)

Physics – PHYS (2 S.H.)
332  Computer Organization (2)

ELECTIVES (18 S.H.)
• Choose from list of “Computer Science Electives” (page 80) except for CS 405, CS 415, and CS 435
• At least 4 of the 6 courses must be 400-level CS courses.

GRADUATE SCHOOL RECOMMENDATIONS:
Students who wish to attend graduate school in computer science should complete both of the following:
• CS 495 at least one semester before graduation
• Additional mathematics and/or statistics courses

APPLIED COMPUTER SCIENCE OPTION
36-37 S.H. in addition to core requirements above
(No Minor Required)

REQUIREMENTS (36-37 S.H.)
Course requirements in the Applied Computer Science Option are track-specific:
  Track 1: Bioinformatics (CSAB)
  Track 2: Computer Information Systems (CSAC)
  Track 3: Geographic Information Technology (CSAG)
  Track 4: Human Computer Interaction (CSAI)

TRACK 1: BIOINFORMATICS (CSAB) 37 S.H.
Mathematics – MATH (4 S.H.)
160  Calculus I (4)
Statistics – STAT (3 S.H.)
Choose one of the following courses:
  210  Statistics (3)
  303  Introduction to Engineering Statistics (3)
  305  Biometry (3)
Computer Science – CS (15 S.H.)
  368  Introduction to Bioinformatics (3)
  468  Algorithms in Bioinformatics (3)
  485  Database Systems Design (3)
CS electives 6 S.H. other than CS 440 and CS 469; at least 3 S.H. at the 400-level
Biology – BIOL (11 S.H.)
* 241  Basics of Life (4)
* 242  Organismal Diversity (4)
  310  Genetics (3)
Track Electives (3 S.H.)
Choose one of the following courses – CHEM:
  340  Survey of Organic Chemistry (4)
  350  Principles of Organic Chemistry I (4)
Any 400-level CS electives course, other than CS 440 and CS 469
University Studies Program Required Courses – CHEM (†† S.H.)
  212  Principles of Chemistry I (4) [USP: Natural Sciences]
  213  Principles of Chemistry II (4) [USP: Natural Sciences]
† 7 S.H. count as USP requirements and are not counted as part of the major.

MINOR IN BIOLOGY
Students can receive a minor in biology by taking CHEM 340 as the track elective, and an additional 12 S.H. of courses listed with the biology major in any of the four options.

GRADUATE SCHOOL RECOMMENDATIONS:
1. Students who intend to go to graduate school in computer science will need to complete both of the following:
   • MATH 160-165 in place of (or in addition to) MATH 140
   • CS 405, CS 415, and CS 435 (These may count as the electives for this track.)
2. It is also recommended that students who intend to study in a bioinformatics graduate program take more biology and chemistry courses, such as BIOL 308, BIOL 430, and CHEM 351 in their open electives.

TRACK 2: COMPUTER INFORMATION SYSTEMS (CSAC) 36 S.H.
Mathematics – MATH (3 S.H.)
  140  Applied Calculus (3)
Statistics (3 S.H.)
Choose one of the following courses:
  210  Statistics (3)
  BUSA 220  Business Statistics (3)
Computer Science – CS (15 S.H.)
Choose two of the following courses:
  344  Introduction to Web Programming (3)
  472  Reusable Software Architectures (3)
  482  Internet/Web Architecture and Development (3)
  485  Database System Design (3)
Electives 6 S.H.; at least 3 S.H. at the 400-level

Accounting – ACCT (3 S.H.)
  212  Managerial Accounting Principles (3)

Management Information Systems – MIS (3 S.H.)
  362  Management Information Systems (3)

Track Electives (9 S.H.)
Choose three of the following courses:
  BUSA 291  Legal Environment of Business (3)
  * ECON 201  Principles of Microeconomics (3)
    [USP: Social Science]
  * ECON 202  Principles of Macroeconomics (3)
    [USP: Social Science]
  FIN 360  Corporate Finance (3)
  MKTG 300  Principles of Marketing (3)
  OM 334  Operations Management (3)
†‡‡ MGMT 325  Organizational Dynamics (3)

University Studies Program Required Courses (0† S.H.)
  ACCT 211  Financial Accounting Principles (3)
    [USP: Contemporary Citizenship]

Choose one of the following courses:
  ECON 201  Principles of Microeconomics (3)
    [USP: Social Science]
  ECON 202  Principles of Macroeconomics (3)
    [USP: Social Science]
† 6 S.H. count as USP requirements and are not counted as part of the major.

MINOR IN BUSINESS ADMINISTRATION:
Students can receive a minor in business administration by taking all the business electives courses. Note that students will have either ECON 201 or ECON 202 as a required University Studies course. Since the remaining economics course (ECON 201 or ECON 202 can also be used as a University Studies requirement, students will need two additional business courses (6 S.H.) beyond the CS major.

GRADUATE SCHOOL RECOMMENDATIONS:
Students who wish to attend graduate school in computer science will need to complete both of the following:
• MATH 160-165 in place of (or in addition to) MATH 140
  • CS 405, CS 415, and CS 435 (Two of these may count as the CS electives for this track.)

TRACK 3: GEOGRAPHIC INFORMATION TECHNOLOGY (CSAG) 37 S.H.
Mathematics – MATH (4 S.H.)
  160  Calculus I (4)
Statistics – STAT (3 S.H.)
  210  Statistics (3)
Computer Science – CS (15 S.H.)
  369  Spatial Information Processing (3)
  433  Digital Image Processing (3)
  469  Algorithms in Geographic Information Technology (3)
CS electives 6 S.H. other than CS 440 and CS 469; at least 3 S.H. at the 400-level
Geosciences/Geography (14 S.H.)
  GEOS 240  Watershed Science (4)
  GEOS 280  Field & Analytical Methods I (2)
Choose 2-3 of the following courses:
  GEOS 315  Surficial Processes & Soils (4)
  GEOS 325  Environmental Science (3)
  †‡‡ GEOS 370  GIS and Imaging Techniques (3)
  GEOS 405  Current Topics (1-3)
  GEOS 415  Advanced Geomorphology (4)
  GEOS 420  Applied Hydrogeology (4)
  GEOS 425  Global Climate Change (3)
  GEOG 450  Cartography (3)

* “Additional Requirements” course as defined in Item 3, page 18
MINOR IN GEOSCIENCE:
Students can receive a minor in geoscience by taking one additional 3-4 credit geoscience course.

GRADUATE SCHOOL RECOMMENDATION:
Students who intend to go to graduate school in computer science will need to complete both of the following:
- MATH 165 in addition to MATH 160
- CS 405, CS 415, and CS 435 (Two of these may count as the CS electives for this track.)

TRACK 4: HUMAN COMPUTER INTERACTION (CSAH)
37 S.H.
Mathematics – MATH (4 S.H.)
160 Calculus I (4)
Statistics (3 S.H.)
Choose one of the following three courses:
STAT 210 Statistics (3)
STAT 303 Introduction to Engineering Statistics (3)
[‡] PSY 231 Statistics (3)
Computer Science – CS (15 S.H.)
344 Introduction to Web Programming (3)
444 Human–Computer Interaction (3)
CS electives 9 S.H.; at least 6 S.H. at the 400-level
Psychology – PSY (9 S.H.)
335 Human Factors Psychology (3)
369 Cognitive Psychology (3)
410 Sensation and Perception (3)
Track Electives (6 S.H.)
Choose any two CS or PSY courses at the 300- or 400-level or ART 260 (Graphic Design I) or ART 265 (Graphic Design II)

University Studies Program Required Courses (0† S.H.)
PSY 210 Introduction to Psychological Science (3) [USP: Social Science]
SOC 150 Introduction to Sociology (3) [USP: Social Science]
STAT 350 Design of Samples and Surveys (3) [USP: Contemporary Citizenship]

MINOR IN PSYCHOLOGY
Students can receive a minor in psychology by taking two psychology courses as their track electives (and taking PSY 231 to meet their statistics requirement).

GRADUATE SCHOOL RECOMMENDATION:
Students who intend to go to graduate school in computer science will need to complete both of the following:
- MATH 165 in addition to MATH 160
- CS 405, CS 415, and CS 435 (These may count as the CS electives for this track.)

B.S. MINOR - COMPUTER SCIENCE (COMS)
26 S.H.
The Computer Science minor is designed to provide students with a solid understanding of computer science. Students will gain the knowledge and skills to apply computer programming techniques to their major field of study. The courses included in the Computer Science minor are all non-major computer science courses and, for the most part, are University Studies courses.

REQUIREMENTS (11 S.H.)
**Choose one of the following courses:
CS 130 Introduction to BASIC Programming (3)
CS 150 An Overview of Computer Science (3)
CS 234 Algorithms and Problem Solving I (4)
CS 250 Algorithms and Problem Solving II (4)
** Students who are prepared for calculus and take CS 234 as their first computer science class may choose to take a 300- or 400-level CS course in place of the CS 130/150 course requirement.

ELECTIVES (15 S.H.)
Choose 15 S.H. from any of the following:
CS/MATH 275 Mathematical Foundations of Algorithms (4)‡
Computer Science courses numbered 300 or above

Any one of the following courses:
MATH 140 Applied Calculus (3)
MATH 155 Calculus Based Modeling (3)
MATH 160 Calculus I (4)
‡ Math majors may substitute MATH 210 for the CS/MATH 275 course requirement.

B.S. MINOR - COMPUTER TECHNOLOGY (COMT)
18 S.H.
The Computer Technology minor is designed to provide students with a solid understanding of computer technology. Students will gain both the skills and confidence necessary to use computer technology appropriately and effectively for problems in their disciplines. The courses included in this minor are all non-major computer science courses and, for the most part, are University Studies courses.

REQUIREMENTS (15 S.H.)
CS 110 Computers in a Global Society (3) [USP: Science and Policy]
CS 115 Computer Systems and Internet Technology (3)
CS 116 Web Technology (3) [USP: Contemporary Citizenship]
Choose one of the following courses:
CS 130 Introduction to BASIC Programming (3) [USP: Critical Thinking]
CS 150 An Overview of Computer Science (3) [USP: Critical Thinking]
Choose one of the following courses:
CS 295 Computer Technology Project (3)
CS 395 Community-Based Computer Technology Project (3)

ELECTIVES (3 S.H.)
Approved 300- or 400-level course in the student’s major. Course must meet the following requirements:
- Course material must be relevant to the CS 295/395 project.
- Course must be taken at least one semester prior to CS 295/395.
- A faculty member in the student’s major department must approve the course as relevant to the proposed CS 295/395 project.

COURSE DESCRIPTIONS

COMPUTER SCIENCE (CS)
110 - Computers in a Global Society (3 S.H.)
This course exposes students to some of the basic scientific foundations of computer technology to help them understand the societal implications of computer technology. This course addresses such questions as: What happens when you hit a “submit” button on a Web form? What is going on when you “download” a file? How does a Web-search happen? Based on this technical perspective, the course looks at the role technology plays in the United States, as well as its effect on nations and cultures all over the world. The impact and significance of the information age is explored in several different contexts including economic, political, cultural, legal, environmental, historical, ergonomic, and psychological.

115 - Computer Systems and Internet Technology (3 S.H.)
This course provides students with a broad overview of the principles of, and effective strategies for, navigating computer systems, servers, and the Internet. Topics include file maintenance; operating systems; general applications (word processors, spreadsheets, electronic presentations, databases); web-based applications; security; and multimedia. Emphasis will be placed on navigating systems in safe and effective ways as well as maintaining personal systems (desktops or laptops). Course does not count for major elective credit.

116 - Web Technology (3 S.H.)
An introductory, hands-on course on Internet website development. The emphasis is for students to develop competence using web authoring tools and tools for incorporating multimedia into a web page in order to build a complex website focused on some area of academic interest. Students will learn how to plan and publish websites and develop electronic portfolios that are exciting, efficient, accessible, and well-designed. Students will gain insight into the technology behind the World Wide Web by working with CSS (cascading style sheets) and HTML (hypertext) markup language. No prior programming experience is necessary for this course.

130 - Introduction to BASIC Programming (3 S.H.)
An introductory course in computer programming utilizing the VISUAL BASIC language. Intended for students in the life and social sciences, business, psychology, and other disciplines.

150 - An Overview of Computer Science (3 S.H.)
Course is designed for CS majors and non-majors who desire a survey of the field of computer science. After a brief history of the development of
computers, students are introduced to such fundamental issues as problem-solving, algorithm design, representation and analysis, hardware design, computer organization, machine and assembly language, system software, software design and analysis, language models, and models of computation. Prerequisite: Qualifying score on the mathematics placement exam or MATH 050.

234 - Algorithms and Problem Solving I (4 S.H.)
An introduction to the major concepts of algorithm design and problem solving. Emphasis is on algorithm development, analysis, and refinement. Programming strategies and elements of programming also are covered. Various practical applications of problem-solving are demonstrated. Includes formal labs. Prerequisite: Qualifying score on the math placement test or MATH 120 or MATH 150.

235 - Algorithms I Companion (1 S.H.)
Course reinforces students' algorithm design and programming skills in the context of CS 234, Algorithms and Problem Solving I. Intended to be taken concurrently with CS 234; students work on problems directly related to topics introduced in that course. Prerequisite: Concurrent enrollment in CS 234 or instructor's permission. Pass/No Credit only.

250 - Algorithms and Problem Solving II (4 S.H.)
A continuation of the problem solving and programming concepts introduced in CS 234. Applies the basic principles of software engineering to more complex problems. Topics include recursive problem solving, searching, sorting, and dynamic structures. Prerequisite: CS 234.

251 - Algorithms II Companion (1 S.H.)
Course reinforces students' algorithm design and programming skills in the context of CS 250, Algorithms and Problem Solving II. Intended to be taken concurrently with CS 250; students work on problems directly related to topics introduced in that course. Prerequisite: Concurrent enrollment in CS 250 or instructor's permission. Pass/No Credit only.

275 - Mathematical Foundations of Algorithms (4 S.H.)
The formal study of the mathematical foundations of algorithms. This course provides students with an algorithm-based introduction to discrete mathematical structures and their application to computer science. Topics include sets, relations, graphs, proof techniques, induction, recursive definitions, and recurrence relations. Applications include the correctness and complexity of algorithms. This course is equivalent to MATH 275. Students may register for either CS 275 or MATH 275, not both. Prerequisites: CS 234 and MATH 140 or MATH 155 or MATH 160, or instructor's permission.

295 - Computer Technology Project (3 S.H.)
This course gives students an opportunity to apply their computer technology knowledge to a project directly related to their major. Students will design and implement their own projects; however, the projects must be relevant to specific course content in the student's major. Students will learn how to develop functional requirements, solution designs, implementation timelines, and maintenance plans for their project. Projects must be pre-approved by both the course instructor and a faculty member in the student's major department. Final presentations of all projects will be part of the course. Prerequisites: CS 110, CS 115, CS 116, and either CS 130 or 150, and approved 300- or 400-level course in student's major.

299 - Special Topics-1 (3 S.H.)
This course is intended to treat "special" topics at the sophomore level. This course will be offered in response to requests from local groups or industry. This course may not be used to meet major or minor requirements. May be repeated for credit. Prerequisite: Instructor's permission.

310 - Social Implications of Computing (3 S.H.)
Course provides an overview of the societal and ethical issues surrounding computer technology and involves students in discussions about the social implications of this technology. Primary topics include professional ethics; privacy; intellectual property; computer and network security; computer reliability; work and wealth; and the societal impacts of computing, networking, and information storage and retrieval. Although the course is not a programming course, topics will be covered at a level that requires understanding of computer programming. The course will involve extensive reading, writing, and discussion. Prerequisites: CS 250 and ENG 111.

313 - Networking and Telecommunications (3 S.H.)
This course introduces communications and computer networks. It begins by discussing data communications, computer interfaces, transmission media, and error detection and correction. Wide area, metropolitan, and local area networks are studied in the context of the International Standards Organization/OSI Model. Emphasis is placed on the physical, data link, network, transport, and session layers. Prerequisites: CS 250 and one 300-level CS course.

341 - Data Structures (4 S.H.)
A detailed study of more advanced data structures and algorithms, including concepts and techniques of design efficiency and complexity of algorithms and their lower bounds. Topics include search trees, hash functions, string searching, disjoint sets, internal and external sorting, graphs and graph algorithms, and different algorithm design technique. Prerequisites: CS 250 and CS 275.

344 - Introduction to Web Programming (3 S.H.)
Focus is on the fundamentals of the Web as a computer system, and the components used in developing client-side web-based applications. Topics include markup languages (HTML and its variants), scripting languages (e.g., JavaScript, Perl, PHP), and applets including security and digital signatures, multimedia content, animation, and usability issues. In addition, the course will provide an overview of web history, web architecture, search engines, and web security. Students will develop a number of web pages and programs throughout the course and work with a team to develop an integrated, interactive website. Prerequisite: CS 250 or instructor's permission.

368 - Introduction to Bioinformatics (3 S.H.)
This course introduces students to the fundamental concepts of bioinformatics. Topics include introduction to DNA machinery and bioinformatics, pairwise sequence alignments, bioinformatics programming, bioinformatics tools and database searches, genomics and proteomics, and introduction to DNA microarray analysis. Prerequisites: CS 250 and BIOL 241.

369 - Spatial Information Processing (3 S.H.)
An introductory course on spatial data processing. The emphasis is for students to understand the major phases of the spatial information processing cycle, including selecting an appropriate algorithm, collecting and analyzing data, and presenting the results. Applications of information technology in the fields of geographic information processing and/or bioengineering will be examined. Prerequisites: CS 250 and MATH 160 or instructor's permission.

375 - Computer Systems (4 S.H.)
This course is an overview of the hardware and software of computer systems. Topics include computer organization and computer architecture, data representation, assembly language, memory systems, operating systems, networking and security, run-time environments, and advanced topics such as RISC vs. CISC, von Neumann architectures, and Java virtual machine. Prerequisite: CS 250.

385 - Applied Database Management Systems (3 S.H.)
A study of basic Database Management Systems (DBMS) concepts. Topics include DBMS Models-Relational and object-oriented; study of query languages; study of exiting DBMS; and data integrity, recovery, and concurrency control. Prerequisites: CS 250 and ENG 111.

399 - Special Topics-1 (3 S.H.)
This course is intended to treat "special" topics at the junior level. It is anticipated that this course will be offered in response to requests from local groups or industry. This course may not be used to meet major or minor requirements. May be repeated for credit. Prerequisite: Instructor's permission.

405 - Operating Systems (3 S.H.)
Study of the principles and design techniques of operating systems. Topics include concurrent processes, scheduling, deadlocks, memory management, file and directory organizations and protection/security. Prerequisites: CS 341 and CS 375.

410 - Software Engineering (3 S.H.)
The course deals with the current trends of software engineering principles and techniques for methodical construction of large, complex software-intensive systems. It follows the software life cycle from the requirement, specification, design, and testing phases. Topics include software process, project management, quality assurance, configuration management, formal specification techniques, design methodologies, testing and validation techniques, and object-oriented methodologies. Students are involved in a team project using software engineering principles. Prerequisites: CS 341 and ENG 111.

411 - Software Testing (3 S.H.)
An introduction to various software testing techniques and analysis that have sound theoretical basis. Class discussion will include software testing fundamentals and techniques for software test case design. Software testing methods such as functional testing, structural testing, mutation testing, and integration and system testing, including object-oriented software testing will be presented. Prerequisite: CS 410 and CMST 191.

413 - Advanced Networking and Telecommunications (3 S.H.)
Advanced topics in computer networking are studied. Emphasis is on the TCP/IP protocol and topics such as security, common network applications, and network management. The course emphasizes an advanced lab where students build a network, learn how to use network management tools, and write network applications. Prerequisites: CS 313 and CS 375.
415 - Principles of Programming Languages (3 S.H.)
A study of the principles of the design and implementation of higher-level
programming languages. Topics include syntax, semantics, implementation
issues, and specific features and strengths of languages. Alternative
paradigms for describing computation are also covered. Students are
introduced to the theoretical foundations of these paradigms and are given
an opportunity to write programs in each of the paradigms. Prerequisite: CS
341.

420 - Computer Architecture (3 S.H.)
Models of computing systems are studied. These include the Von Neumann
model, multiprocessors, vector processors, and others. Additionally, the
components of these models are examined. Topics include the memory
hierarchy, input/output systems, and pipelining. Prerequisite: CS 375.

425 - Numerical Analysis (4 S.H.)
Numerical solution of equations, numerical interpolation, differentiation
and integration, numerical linear algebra, and numerical solution of differential
equations with analysis and use of algorithms and related software.
Prerequisites: CS 234 and MATH 260.

430 - Computer Graphics (3 S.H.)
A study of computer graphics theories, algorithms, and techniques. Topics
include display techniques, primitives and attributes, interactive graphics,
transformations, 3-D modeling and viewing, graphics package design,
picture structure, lighting and shading, and color theory. Prerequisite: CS
341.

433 - Digital Image Processing (3 S.H.)
A study of digital images and their properties as well as algorithms and
techniques for digital image processing. Topics include image acquisition,
enhancement in both spatial and frequency domains, segmentation, and
compression. Offers an introduction to object recognition approaches.
Prerequisites: CS 341 and MATH 165.

435 - Theory of Computation (3 S.H.)
This course explores the theoretical foundations of computer science. Topics
include finite state automata and regular languages, context-free grammars,
pushdown automata and context-free languages. Turing Machines and
recursively enumerable sets, computability and the halting problems,
Chomsky hierarchy and undecidable problems. Prerequisites: CS 250 and
CS 275.

440 - Theory of Algorithms (3 S.H.)
Concepts and techniques of design efficiency and complexity of algorithms.
Topics include principles of algorithm design (divide and conquer,
backtracking, dynamic programming, greedy and local search); graph,
numerical, pattern matching, and parallel algorithms; P, NP, and NP-
complete problems. CS credit will be given for only one of these courses:
CS 440, CS 468, or CS 469. Prerequisite: CS 341.

444 - Human Computer Interaction (3 S.H.)
This course examines fundamental principles of human factors issues related
to the development of software and the design of interactive systems. Topics
include user-centered design, usability tests, tradeoffs between interaction
devices, alternative input-output methods, design of interfaces for special
audiences, and construction of appropriate error messages. Projects will
involve implementation and evaluation of graphical user interfaces (GUIs)
and web pages. Prerequisites: CS 341, CS 344, and PSY 210.

445 - Artificial Intelligence (3 S.H.)
A survey of the tools and theoretical constructs of artificial intelligence
as implemented on computers. Emphasis is on the importance of good
representations to model various kinds of intelligence. Topics include
resolution theorem proving, heuristic and algorithmic search, game
playing, natural language processing, expert systems, and neural networks.
Prerequisite: CS 341.

450 - Compilers (3 S.H.)
The course studies the principles, techniques and tools for compiler design
and construction. Topics include lexical analysis, syntax analysis, parsing
techniques, error recovery, semantic analysis, intermediate language, code
generation, and optimization techniques. Students design and implement
the phases of a compiler. Prerequisite: CS 415 or CS 435.

465 - Topics: Computing Theory (1-3 S.H.)
Topics are selected from automata theory, the Turing Machine,
combination theory, language theory, and related computer science theories.
The course introduces students to important topics in computer science.
May be repeated for credit. Offered according to demand.

466 - Topics: General Computing Applications (1-3 S.H.)
Topics are selected from general computer application areas. An in-
depth view of a specific problem or technique is given. Topics may include
statistical problems, the Simplex model, O(1) knapsack, Divide and Conquer,
etc. Prerequisites: Junior or senior standing and instructor's permission. May
be repeated for credit. Offered according to demand.

467 - Topics: Information Systems Applications (1-3 S.H.)
Topics are selected from specific information systems or management
information systems applications and are oriented toward the user. Topics
include linear programming, statistical packages, inventory systems, decision
support, the transportation problem, project scheduling, queuing models,
forecasting, and discrete simulation. Prerequisites: Junior or senior standing
and instructor's permission. May be repeated for credit. Offered according to
demand.

468 - Algorithms in Bioinformatics (3 S.H.)
This course is offered as an introduction to the design and analysis of contemporary
algorithms, and their applications to bioinformatics. This course offers
an introduction to the analytic principles driving advances in the field
of bioinformatics. Data modeling, algorithm design techniques such as
dynamic programming and divide-and-conquer, and machine learning
algorithms are discussed in the contexts of genomics and proteomics. CS
credit will be given for only one of these courses: CS 440, CS 468, or CS
469. Prerequisites: CS 368, and BIOL 310.

469 - Algorithms in Geographic Information Technology (3 S.H.)
The design and analysis of contemporary algorithms and their applications
to geographic information technology. This class offers an introduction
to the analytic principles driving advances in this application field. Data
modeling, algorithm design techniques such as backtracking and divide-
and-conquer, and machine learning algorithms are discussed in the context
of the application field. CS credit will be given for only one of these courses:
CS 440, CS 468, or CS 469. Prerequisites: CS 341, CS 369, and GEOS 280.

471 - Object Oriented Design and Development (3 S.H.)
This course will cover fundamental topics in object-oriented analysis, design,
and development. An object-oriented design methodology and tool will be
introduced and used. The course will use an object oriented development
environment/language. Advanced features of object-oriented languages will
be covered. Students will be required to investigate issues in object-oriented
systems and their implementation. Prerequisite: CS 341 and CMST 191.

472 - Reusable Software Architecture (3 S.H.)
This course investigates the software concepts that promote reuse of software
architectures. In particular, the influence of object technology on software
design and reuse is studied. Domain modeling methods, which model
the application domain as a software product family from which target systems
are configured, are investigated. The course also covers reusable software
patterns including architecture patterns and design patterns, software
components, and object-oriented frameworks. State-of-the-art component
technologies will be used to experiment with the concepts of this course.
Prerequisite: CS 471 or instructor's permission.

476 - Distributed Systems: Concepts and Design (3 S.H.)
Introduction to the theory and design principles used in the construction
of distributed computer systems. Study of architectural foundations
of networked systems, file servers and transportation handling, and security
issues. Case studies of specific distributed systems. Prerequisite: CS 405.

481 - Computer Applications (1-3 S.H.)
This is intended to be an off-campus course. The computer applications to be
covered are determined by the requesting group or company in conjunction
with the computer science faculty. (Not open to computer science majors/
minors.) May be repeated for credit. Offered according to demand.

482 - Internet/Web Architecture and Development (3 S.H.)
This course will emphasize the distributed software architecture for web-
based software and web services design and development. J2EE architecture
will be used to provide a basis for developing software that will run on
the client-side, the server-side, in a distributed system, or in a standalone
environment. Topics include server components, servlets, Java server pages,
Javabeans, session control and security, EJBs, transaction processing, database
connections, and connection pools. A major application development
environment will be used to design, develop, test, and deploy applications.
Students will develop a distributed web application. Prerequisites: CS 471
and either CS 344 or CS 472, instructor's permission.

485 - Database Systems Design (3 S.H.)
The design and development of database management systems. Topics
include relational object-oriented database operations and implementation,
query language development, normalization, database file management,
deadlock handling, security and integrity problems, and distributed DBMS.
Prerequisite: CS 341 and CS 385.

490 - Independent Problems in Computer Science (1-3 S.H.)
An opportunity to continue the study of selected topics. Prerequisite:
instructor's permission. Offered according to demand.

491 - Practicum in Computer Science (6 S.H.)
Students work a minimum of 300 hours in an application environment
under the supervision of a computer science professional. Open only
to junior or senior declared CS majors who have satisfied specific
requirements. Contact the Computer Science Practicum Coordinator, or visit
department website, for more information on these requirements. Permission
of coordinator is required. Pass/No Credit only. Only 3 S.H. apply to CS majors.
COUNSELOR EDUCATION
Gildemeister Hall, Room 132 (507-457-5335; Fax: 507-457-5882)
WSU-Rochester, Room EA 201 (507-285-7488; Fax: 507-285-7170)
www.winona.edu/counseloreducation
Tim Hatfield (Chairperson)

FACULTY
Gaylia Borror, Professor; B.S., Davis & Elkins College; M.S., West Virginia University; Ph.D., University of Iowa; 1989 –
Cynthia Briggs, Assistant Professor; B.S., Guilford College; M.A., Wake Forest University; Ph.D., Oregon State University; 2006 –
Mary Fawcett, Associate Professor; B.A., University of North Carolina; M.A., Appalachian State University; Ph.D., University of South Carolina; 1999 –
Tim Hatfield, Professor; B.A., Harvard University; M.Ed., Harvard Graduate School of Education; Ph.D., University of Minnesota; 1980 –
Nicholas Ruiz, Professor; B.A., Ph.D., University of Minnesota; 1989 –
Carol Smith, Assistant Professor; B.S., North Dakota State University; M.S., Western Illinois University; Ph.D., University of Iowa; 2007 –

PURPOSE
The department’s major purpose is to provide quality education to persons seeking advanced study in counseling and related professions and to provide selected undergraduate and community service courses. The department offers elective courses for undergraduates; however, departmental concentrations lead only to the Master of Science degree. (See the Graduate Catalog for program descriptions.)

PASS/NO CREDIT (P/NC) COURSES
Except for internships and practica, undergraduate students must take all courses in their major, minor, options, concentrations and licensures on a grade-only basis. The P/NC option is available to non-majors unless otherwise noted. Courses offered on a pass/no credit-only or grade-only basis are so designated in the course descriptions.

COURSE DESCRIPTIONS
200 - Career/Life Decision Making (3 S.H.)
This course is designed to give students an opportunity to explore the skills, processes, and information necessary to become actively and responsibly involved in their own college program planning as well as their longer-term career and life planning. P/NC only.

220 - Emotions and Behavior (3 S.H.)
This course focuses on promoting students' self-awareness and personal growth, with significant learning opportunities structured through in-class and out-of-class individual projects, small group work, and large group experiential activities.

432 - Stress Management (3 S.H.)
This course provides an introduction to important concepts, issues, skills, and interventions related to the identification and management of personal stress.

495 - Workshop: Counseling Specialties (.5-4 S.H.)
The topics of these workshops vary. Announcements of the topics and any special enrollment issues are made in advance of the workshop offering.
CYTOTECHNOLOGY
Pasteur Hall, Room 220 (507-457-5271)
http://bio.winona.edu/biohp/acad_deg.htm

WSU DIRECTOR, CYTOTECHNOLOGY
Edward Thompson, Professor; B.A., Macalester College, St. Paul; Ph.D., Medical College of Wisconsin, Milwaukee; 1992 –

ADJUNCT FACULTY
Mayo School of Health-Related Science, Rochester, MN
Fell Caudill, M.Ed., CT, (ASCP), Education Coordinator
John Geilman, M.S., Medical Director
Marshfield Medical Center, Marshfield, WI
Virginia R. Narlock, Ph.D., C.I.S. (ASCP) Program Director, Laboratory
George Rupp, M.D., Medical Director, Laboratory Education Programs
Donald Schnitzler, Education Coordinator, Cytotechnology

PURPOSE
WSU’s Cytotechnology Program is administered by the Biology Department and the College of Science and Engineering. It is a four-year course of study leading to the Bachelor of Science degree in Cytotechnology. The first three years are spent at WSU, where the student completes courses in the basic sciences of biology and chemistry as well as the WSU University Studies requirements. The fourth year is spent in a clinical setting at one of the cytotechnology programs affiliated with WSU, where the student receives intensive training in the sub-disciplines and techniques of cytotechnology.

Before they can apply for the year of clinical training, students must complete three years (96 semester hours) at WSU with a minimum grade point average of 3.00. Students should note that acceptance into the fourth year of clinical training is not automatic upon completion of the third year at WSU. The number of spaces each year in clinical training programs is limited, and there is significant competition for these spaces. Students are accepted by the clinical institutions based upon their academic achievement and their potential for a successful career as a cytotechnologist. The latter is determined through letters of recommendation from University faculty and a personal interview with faculty of the clinical institution.

During the clinical year, each student registers for the appropriate number of credits at WSU, and his or her progress is evaluated each semester. Upon successful completion of the clinical program, the student receives a certificate in cytotechnology and then is eligible to write the National Registry Examination given by the American Society of Clinical Pathologists (ASCP). If all WSU requirements have been completed, the student also is granted the degree of Bachelor of Science in Cytotechnology.

First-year students entering this program should consult with Dr. Thompson soon after their arrival on campus, and all cytotechnology students must meet with him for academic review and advising prior to registration for each semester. Dr. Thompson must approve all student schedules each semester.

UNIVERSITY STUDIES FLAG REQUIREMENTS
Students may use flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student’s major or minor program. The Biology Department offers the following flag courses in the University Studies Program:

FLAG

Writing *
• BIOL 308 Cell Biology (3)
• BIOL 323 General Physiology (5)
• BIOL 415 Ecology of Large Rivers (4)
• BIOL 431 Molecular Biology Laboratory (4)
• BIOL 445 Immunology (3)
• BIOL 499 Capstone Project (1–3)

Math/Critical Analysis
• BIOL 310 Genetics (3)
• CHEM 212 Principles of Chemistry I (4)
• CHEM 213 Principles of Chemistry II (4)
• MATH 120 Precalculus (4)

Note: MATH 150 and MATH 155 may be substituted for MATH 120.

B.S. MAJOR - CYTOTECHNOLOGY (CYTO)
82 S.H. (No Minor Required)

REQUiRED MAJOR AREA COURSES (31 S.H.)
• BIOL 241 Basics of Life (4)
• BIOL 242 Organismal Diversity (4)
• BIOL 308 Cell Biology (3)
• BIOL 310 Genetics (3)
• BIOL 307 Cell Biology Laboratory (1) OR
• BIOL 311 Genetics Laboratory (1)
• BIOL 201 Human Anatomy (4)
• BIOL 323 General Physiology (4)
• BIOL 409 General Microbiology (4)
• BIOL 470 Histology (4)

Note: BIOL 241 and 242 should be taken prior to BIOL 201, 307, 308, and 310. BIOL 308 should be taken prior to or concurrently with BIOL 307. BIOL 323 should be taken after BIOL 201. BIOL 409 and 470 should be taken after BIOL 308, 310 and 307.

MAJOR ELECTIVES (7 S.H.)
Choose at least 7 S.H. from the following courses:
• BIOL 309 Developmental Biology (3)
• BIOL 445 Immunology (3)
• BIOL 460 Parasitology (3)
• CHEM 340 Organic Survey (4)

ADDITIONAL REQUIREMENTS (12 S.H.)
Chemistry (8 S.H.)
* CHEM 212 Principles of Chemistry I (4)
* CHEM 213 Principles of Chemistry II (4)

Mathematics (4 S.H.)
• MATH 120 Precalculus (4)

Note: MATH 150 and MATH 155 may be substituted for MATH 120.

CLINICAL EDUCATION (32 S.H.)
• BIOL 481 Cytotechnology I (12)
• BIOL 482 Cytotechnology II (12)
• BIOL 483 Cytotechnology III (4)
• BIOL 484 Cytotechnology IV (4)

Note: The clinical training can be completed at any approved clinical training site.

COUrsE DESCRIPTIONS
See specific program areas (i.e., biology, chemistry, and mathematics) in this catalog for descriptions of the courses cited for this major.
ECONOMICS AND FINANCE
Somsen Hall, Room 309 (507-457-5014)
Daniel Kauffman (Chairperson)

Economics: Gallegos, Hyle, Kauffman, Manrique, Pevas, Salyards, Wenz, Yu
Finance: Kesler, Kim, Murray, Wrolstad

FACULTY
Alejandro Gallegos, Professor; B.A., Instituto Tecnologico y de Estudios Superiores de Monterrey; M.A., Ph.D., University of Wisconsin-Milwaukee; 1988 –
Matthew Hyle, Professor; B.A., Indiana University; Ph.D., University of Maryland; 1988 –
Daniel E. Kauffman, Professor; B.A., St. Cloud State University; M.A., Ph.D., University of Nebraska-Lincoln; 1983 –
David W. Kesler, Professor; B.S., Pacific Lutheran University; M.A., B.A., University of Kansas; Ph.D., University of Wisconsin-Milwaukee; 1984 –
Chan-Wang Kim, Professor; B.A., Sungkyunkwan University; M.B.A., Seoul National University; Ph.D., University of Iowa; 2002 –
Gabriel Manrique, Professor; B.A., Ateneo De Manila University; M.A., Ohio University; Ph.D., University of Notre Dame; 1989 –
Michael Murray, Professor; B.A., University of South Florida; M.A., Ph.D., University of Notre Dame; 1986 –
Mary Ann Pevas, Professor; B.A., Dominican College; M.A., Manhattan College; Ph.D., University of Notre Dame; 1990 –
Donald M. Salyards, Professor; B.A., Graceland College; M.A., Ph.D., Kansas State University; 1975 –
Michael Wenz, Assistant Professor; B.S., Miami University; M.A., Ph.D., University of Illinois at Chicago; 2006 –
Mark Wrolstad, Professor; B.A., Luther College; M.B.A., University of Florida; Ph.D., University of Colorado; 1989 –
Wei-Chou (William) Yu, Assistant Professor; B.A., National Taiwan University; M.A., Ph.D., University of Washington; 2006 –

PURPOSE
The purpose of the Economics and Finance programs is to develop highly employable professional business analysts and managers. Majors are provided with a firm understanding of the economy and its financial systems, the ability to conceptualize business issues, and the opportunity to develop quantitative and computer skills necessary to solve today’s complex business problems. The department also seeks to provide graduates with the background necessary to pursue graduate degrees.

PASS/NO CREDIT (P/NC) COURSES
Except for internships, students must take all courses in their major, minor, and options on a grade-only basis. The P/NC option is available to non-majors unless otherwise noted. Courses offered on a pass/no credit-only or grade-only basis are so designated in the course descriptions.

GRADUATION REQUIREMENTS
For a checklist of the University’s graduation requirements, see page 23. Specific requirements for economics and finance majors are as follows.

FOR ECONOMICS MAJORS
1. Complete all coursework required for the major.
2. Achieve a grade of “C” or better in all courses counted toward the major.
3. Complete at least 18 semester credits in economics courses offered by the Economics Department at WSU, including ECON 499.

FOR FINANCE MAJORS
1. Complete all coursework required for the major.
2. Achieve a grade of “C” or better in all courses counted toward the major.
3. Sixty-four non-business credits are required for finance majors. Of the math, statistics, and economics courses required for the finance major, 6 credits of math and statistics and 9 credits of economics can be counted toward the requirement for 64 non-business credits.
4. Complete a minimum of 50% of the business requirements for the finance major at WSU.

UNIVERSITY STUDIES FLAG REQUIREMENTS
Students may use flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student’s major or minor program. The Economics and Finance Department offers the following flag courses in the University Studies Program:

ECONOMICS FLAGS

| Oral | ECON 499 Seminar in Economics (3) |
| Writing | ECON 303 Intermediate Macroeconomics (3) |
| Writing | ECON 304 Money and Banking (3) |

FINANCE FLAGS

| Oral | FIN 421 Institutional Investment & Financial Markets (3) |
| Math/Critical Analysis | FIN 335 Forecasting Methods (3) |

Flag courses that can be used to satisfy economics and finance major/minor requirements are identified in the lists of required courses and electives in this section.

B.A. MAJOR - ECONOMICS (ECON)
45-46 S.H. (Minor Required)

REQUIRED COURSES (27-28 S.H.)
Economics – ECON (18 S.H.)
201 Principles of Microeconomics (3)
202 Principles of Macroeconomics (3)
301 Intermediate Microeconomics (3)
304 Intermediate Macroeconomics (3)
305 Money and Banking (3)
499 Seminar in Economics (3)
Statistics/Quantitative Tools (9-10 S.H.)
FIN 335 Forecasting Methods (3)
Choose one of the following two courses:
MATH 140 Applied Calculus (3) OR MATH 160 Calculus I (4)
Choose one of the following two courses:
BUS 220 Business Statistics (3) OR STAT 210 Statistics (3)

ELECTIVES (18 S.H.)
Additional credits at the 300- or 400-level in economics.

B.A. MINOR - ECONOMICS (ECON)
24 S.H.

REQUIRED COURSES – ECON (15 S.H.)
201 Principles of Microeconomics (3)
202 Principles of Macroeconomics (3)
301 Intermediate Microeconomics (3)
304 Intermediate Macroeconomics (3)
305 Money and Banking (3)

ELECTIVES (9 S.H.)
Additional credits at the 300- or 400-level in economics.

B.S. MAJOR - FINANCE (FIA; FIB)
69-70 S.H. (No Minor Required)

BUSINESS CORE (39-40 S.H.)
Mathematics (3-4 S.H.)
MATH 140 Applied Calculus (3) OR MATH 160 Calculus I (4)

* “Additional Requirements” course as defined in Item 3, page 18
Accounting (6 S.H.)
ACCT 211 Financial Accounting Principles (3)
ACCT 212 Managerial Accounting Principles (3)

Statistics (3 S.H.)
BUS 220 Business Statistics (3) OR
STAT 210 Statistics (3)

Business Administration (15 S.H.)
BUS 320 Intermediate Business Statistics (3) OR
STAT 310 Intermediate Statistics (3)
BUS 291 Legal Environment of Business (3)
MIS 312 Business Computer Programming (3)
MGT 325 Organizational Dynamics (3)
OM 334 Operations Management (3)

Economics and Finance (9 S.H.)
* ECON 201 Principles of Microeconomics (3)
* ECON 202 Principles of Macroeconomics (3)
FIN 360 Corporate Finance (3)

Marketing (3 S.H.)
MKTG 300 Principles of Marketing (3)

FINANCE MAJOR REQUIREMENTS (30 S.H.)

FINANCE CORE (15 S.H.)
ECON 303 Intermediate Macroeconomics (3)
FIN 335 Forecasting Methods (3)
FIN 377 Investments (3)
FIN 440 International Finance (3)
FIN 463 Cases in Financial Management (3)

OPTION A (15 S.H.) (FIA)
Option A is applicable for students planning to seek a career immediately after graduation. Choose five 400-level courses in finance or economics. At least two of the courses must be in finance.

OPTION B (15 S.H.) (FIB)
Option B is applicable for students planning to do advanced study in finance.

REQUIRED (6 S.H.)
FIN 422 Portfolio Theory and Security Valuation (3)
FIN 423 Derivative Securities (3)

OPTIONAL COURSES (9 S.H.)
Select three courses from the following list:
BUS 340 Management Science (3)
MIS 342 Advanced Business Computer Applications (3)
MIS 462 Decision Support Systems (3)
ECON 405 Monetary Theory and Policy (3)
ECON 425 Managerial Economics (3)
FIN 480 Independent Studies in Finance (1-3)
MATH 165 Calculus II (4)
MATH 210 Foundations of Mathematics (4)
MATH 430 Operations Research: Linear Programming (4)
STAT 360 Regression Analysis (3)

COURSE DESCRIPTIONS

ECONOMICS (ECON)

201 - Principles of Microeconomics (3 S.H.)
The private enterprise system, demand-and-supply; and market interaction; business costs and prices; forms of competition; economic systems; the mixed economy. Recommended prerequisite: University Studies math requirement.

202 - Principles of Macroeconomics (3 S.H.)
National income analysis; aggregate demand-and-supply; money and banking; business cycles, monetary and fiscal policy. Recommended prerequisite: University Studies math requirement.

203 - Principles of Economics III (3 S.H.)
Economic growth; unions; poverty and insecurity; public spending and taxation; international trade and trade restrictions; gold and the balance of payments; comparative systems. Prerequisites: ECON 201 and ECON 202.

302 - Intermediate Microeconomics (3 S.H.)
The theoretical approach to consumer demand, decision-making in the pricing and employment of resources under the major market classification, and the distribution of resources and production. Prerequisite: ECON 201.

303 - Intermediate Macroeconomics (3 S.H.)
National income accounting and measurement, theory of the determination of national economic activity; economic growth; consumption; investment; government spending and net exports; design and effects of fiscal and monetary policies; inflation. Prerequisite: ECON 202.

304 - Money and Banking (3 S.H.)
The nature and functions of money. Current definitions of the money supply and the process of money creation. The financial system and the central bank. The demand for money, interest rate determination, introduction to monetary policy. Prerequisites: BUSA 220 or STAT 210 and ECON 201 and ECON 202.

315 - Environmental and Natural Resource Economics (3 S.H.)
An introduction to the economic decision-making framework used in natural resource management and environmental quality. Policy and the role of science in the process, the economics of nonrenewable and renewable resources, and in the control of pollution. Current issues in these areas are featured. Prerequisite: ECON 201 or instructor's permission.

320 - Business-Government Relations (3 S.H.)
Government economic regulation of business including anti-trust legislation, natural monopoly regulation, and selected social regulation topics such as consumer product safety. Prerequisite: ECON 201.

390 - Economics of the Middle East (3 S.H.)
The Middle East possesses two-thirds of the world’s oil reserves, which the rest of the world uses as a basic input for its economies. In this course, students study the economics of oil and other natural resources of the region, such as the rapidly growing population and its impact on the labor markets as well as the impact all these factors have on scarce basic necessities such as water and food. The course also examines a brief history of ongoing conflicts within the region and their role in increasing military spending within the context of the current Middle East economies. Prerequisite: ECON 202 or instructor’s permission.

398 - Internship (1-6 S.H.)
Credits will not be counted in economics major, but as general elective credit. Prerequisite: Concurrent enrollment in ECON 399. P/NC only.

399 - Internship Problem (3 S.H.)
Prerequisites: Junior status in economics major, 2.5 GPA, and instructor’s permission. Grade only.

400 - Public Finance: Taxation (3 S.H.)
Structure and economic effects of U.S. tax revenue sources such as the personal income tax and corporate income tax; principles of economic incidence and optimal taxation; current issues in taxation. Prerequisite: ECON 201 or instructor’s permission.

401 - Entrepreneurship and the American Economy (3 S.H.)
This course focuses on the role of entrepreneurs in the development of the U.S. economy and the methods used by successful entrepreneurs. The course includes sections on American economic history and on competing economic systems with an emphasis on the role of entrepreneurship in the free-market system. Prerequisite: ECON 201 and ECON 202. Recommended prerequisites: BUSA 220 or STAT 210.

405 - Monetary Theory and Policy (3 S.H.)
The theory and practice of monetary policy in a modern open economy. This includes the microeconomic foundations of the demand for assets, including money; interrelationships between nonmonetary assets, money, and rates of return; the ability of central banks to manipulate the money supply and influence economic activity; and the roles of public and private debt in monetary policy. Prerequisite: ECON 303 or ECON 304 or instructor’s permission.

415 - International Economic Development (3 S.H.)
A study of the past and current paths to economic growth and development of countries. The course will analyze the economic policies and performances of countries by using economic theory and economic and social data. Emphasis is on developing countries of the Third World, the newly industrialized countries and former socialist countries undergoing transition to a capitalist system. Prerequisites: ECON 201 and ECON 202.

420 - Labor Economics (3 S.H.)
Economic theory relating to labor markets. Wage theory, bargaining models, and contemporary labor issues are considered. Prerequisites: ECON 201 and ECON 202 or instructor’s permission.

425 - Managerial Economics (3 S.H.)
Application of economic theory and related decision-making methods to problems faced by business firms. Prerequisites: ECON 201 and ECON 202 or instructor’s permission.

430 - Asian Economies in Transition (3 S.H.)
This course focuses on the economic transitions that have occurred in Asia. It will include a study of the different economic development strategies and policies that have been used in various Asian countries and a study of which policies have been successful. It will use a comparative approach to examine
similarities and differences among countries. Asia's efforts at regional integration, globalization and development of its financial markets will also be included in the course. Prerequisites: ECON 201 and ECON 202 or instructor's permission. Grade only.

435 - The North American Economies (3 S.H.)
This course studies the economic evolution of Canada, Mexico, and the United States. It traces the main periods and events of their economies since they became independent nations. Their economic policies are described, analyzed, and compared. Special emphasis is given to the analysis of their economic interaction that has produced the United States–Canada Trade Area and the North American Free Trade Agreement (NAFTA). Prerequisites: ECON 201 and ECON 202 or instructor's permission. Grade only.

440 - Industrial Organization (3 S.H.)
A theoretical and empirical study of the economic structure, conduct and performance of industry. Topics include concentration, scale economies, entry barriers, and collusive oligopoly practices. Topics are used to judge industrial performance relative to societal goals. Prerequisite: ECON 201.

444 - Public Finance: Expenditures and the Deficit (3 S.H.)
A practical and theoretical approach to public expenditures. The theory of public goods; use of benefit-cost analysis; analysis of major spending programs; and the effect of the deficit on economic activity. Prerequisites: ECON 201 and ECON 202.

450 - Health Economics (3 S.H.)
In-depth analysis of the market for health care services including the demand of health services; the supply of such services; and alternative delivery modes financing by individuals, government, and third-party payers. Health care policy at the federal, state, and local level is evaluated. Prerequisites: ECON 201 and ECON 202.

460 - Independent Studies in Economics (1-3 S.H.)
Offers the advanced student an opportunity to do additional reading and/or research in areas of special interest. Prerequisite: Instructor's permission. Total credits may not exceed 6.

499 - Seminar in Economics (3 S.H.)
Advanced analysis of economic methods and problems. Specific focus of course is arranged by the instructor. Prerequisites: ECON 302 and ECON 303. Student must be either a major or minor in economics.

FINANCE (FIN)

201 - Introduction to Finance (3 S.H.)
An introduction to the financial system in the U.S. including the role of the banking system in controlling the supply of money and interest rate determination, a primer on investments, and an introductory discussion of international finance. Not open to those having 15 or more credits in business. Grade only.

335 - Forecasting Methods (3 S.H.)
A study of the techniques and processes used in business forecasting. Primary emphasis is on univariate time series. Techniques studied include simple smoothing methods, decomposition methods, and Box-Jenkins ARIMA method and regression. Prerequisites: MATH 140 or MATH 160 and BUSA 220 or STAT 210, or instructor's permission. Students are strongly advised to take intermediate statistics before taking this course. Grade only.

340 - Computer Applications in Finance (1 S.H.)
A series of short courses in the effective use of the SAS System in a PC environment. Alternative course topics include basic data handling, regression analysis, forecasting techniques, and survey tabulation and analysis, etc. Requires completion of several project assignments. May be repeated as topics change. Prerequisite: BUSA 220 or STAT 210. Grade only.

360 - Corporate Finance (3 S.H.)
The theory and practice of corporate finance, using the approaches and quantitative methods required of today's financial managers and decision-makers. Special emphasis on a theory of value, the determinants of risk, return and the opportunity cost of capital, applied to both real and financial assets, the study of leverage issues, the exploitation of market inefficiencies, and the development of various tools and economic reasoning which provide the basis for a wide range of corporate financial decisions. Prerequisites: ECON 201, ECON 202, ACCT 211, BUSA 220 or STAT 210, and one of the following courses—MATH 110, MATH 115, MATH 120, MATH 140, or MATH 160. Grade only.

377 - Investments (3 S.H.)
Investment policies affecting the individual and institutional investor. Includes the analysis and management of stocks, bonds, mutual funds and other investments, and the nature of security markets. Prerequisite: FIN 360. Grade only.

398 - Internship (1-6 S.H.)
Credits are not counted in finance major, but as general elective credit. Prerequisite: Concurrent enrollment in FIN 399. P/NC only.

399 - Internship Problem (3 S.H.)
Prerequisite: Completion of business core courses, 2.5 GPA and instructor's permission. Grade only.

404 - Commercial Bank Management (3 S.H.)
An analysis of financial management issues of commercial banks and other financial institutions including institution performance, investments, asset/liability strategies, management of liquidity, securities, loans and other assets, and capital, deposits, and other sources of funds. Prerequisite: FIN 360. Grade only.

421 - Institutional Investment and Financial Markets (3 S.H.)
A study of portfolio management decision-making in this age of innovative global financial markets, new financial instruments and instantaneous worldwide communications. Prerequisites: FIN 360 and ECON 303. Grade only.

422 - Portfolio Theory and Security Valuation (3 S.H.)
An in-depth study of modern portfolio theory and techniques for the valuation of securities including equity, debt, and derivative securities. Special emphasis is placed on the contingent claims model for security valuation. Prerequisites: FIN 377 and MIS 312, or instructor's permission. Grade only.

423 - Derivative Securities (3 S.H.)
The application and valuation of financial securities whose value is contingent on the value of other securities. The primary concentration is on option and futures contracts; however, application of the option valuation model to other areas of finance will also be introduced. Prerequisites: MATH 140 or MATH 160 and FIN 360. Grade only.

440 - International Finance (3 S.H.)
This course provides a comprehensive introduction to the world of financial management as it applies to multinational corporations and other firms that engage in international transactions. Topics include the nature of the international financial system, foreign exchange management, investment financing, and risk management issues of concern to international businesses. Prerequisite: FIN 360. Grade only.

463 - Cases in Financial Management (3 S.H.)
Case studies affecting the financial policies and position of the business unit. Analysis of financial problems, determination of alternatives, evaluation of alternatives and managerial decision-making. Prerequisites: FIN 360 and MIS 312. Grade only.

471 - Real Estate Finance (3 S.H.)
The structure and operation of the primary and secondary mortgage markets, instruments, techniques, and strategies in financing real property investments including developing projects. Prerequisite: FIN 360. Grade only.

473 - Real Estate Investment (3 S.H.)
Development of the feasibility process, the major tool used in analysis of investment opportunities, with a view to determining highest and best use. Topics include market analysis, cash flow analysis, tax considerations, investment performance, risk analysis, and passive investments in real estate. Prerequisite: FIN 360. Grade only.

480 - Independent Studies in Finance (1-3 S.H.)
Offers advanced students an opportunity to do additional reading and/or research in areas of special interest. Prerequisite: Instructor's permission. Total credits may not exceed 6. Grade only.
EDUCATION
Gildemeister Hall, Room 152 (507-457-5360; Fax: 507-457-5354)
www.winona.edu/education/advising
Melanie Reap (Chairperson)

Note: The College of Education plans to restructure some program offerings in 2007-2008. As a result, the Education faculty listing may change after this catalog is printed. Please check the department for current listings.

FACULTY

Dana Brignon, Assistant Professor; B.S., University of Wisconsin-Whitewater; M.S., University of Wisconsin-La Crosse; 2007

Nancy Ann Eckert, Associate Professor; B.S., M.S., Minnesota State University-Mankato; Ph.D., Iowa State University; 2000

John Gustafson, Associate Professor; B.A. Bemidji State University; M.A., California State University-Los Angeles; Ed.D, University of South Dakota 1998

Donna Hohl, Professor; B.A., Simpson College, Iowa; M.S., Winona State University; Ed.D., University of Northern Colorado; 1984

Margaret Hoody, Assistant Professor; B.S., University of St. Thomas; M.S., Minnesota State University–Mankato; 2007

Jeanette Karjala, Professor; B.A., Western Washington University, Bellingham; Fifth Year and M.A., Western Washington University, Bellingham; Ph.D., University of North Dakota, Grand Forks; 1992

Celeste Miller, Professor; B.A., University of Arizona; M.Ed., University of Maryland; Ph.D., Pennsylvania State University; 1997

Melanie Reap, Associate Professor; B.S., M.S., Texas A & M University; Ph.D., University of Oklahoma; 1999

James Retzko, Associate Professor; B.A., B.S., University of Minnesota-Twin Cities; Ph.D., Michigan State University; 1996

J. Ann Rethlefsen, Associate Professor; B.A., Colby College; M.S., University of Wisconsin-Milwaukee; Ed.D., Saint Mary's University of Minnesota; 2004

Stace Rierson, Assistant Professor; B.A., University of Wisconsin-Madison; M.S., University of Wisconsin-Milwaukee; Ph.D., The Ohio State University; 2006

Janice Sherman, Professor; B.S., State University of New York-Buffalo; M.S., Colorado State University; Ed.D., University of North Dakota; 1989

Thomas Sherman, Professor; B.S., State University of New York-Buffalo; M.Ed., Colorado State University; Ed.D., University of Colorado; 1989

Arne Sippola, Associate Professor, B.A., Central Washington University; M.A., University of Alaska; M.Ed., Ph.D., University of Washington; 2007

Lloyd (Tom) Stevens; Assistant Professor; B.S., Minnesota State University-Mankato; M.A., University of Northern Iowa; 2007

Patricia Tolmie, Professor; B.S., M.S., Winona State University; Ph.D., University of Wisconsin-Madison; 1980

Rhea Walker, Associate Professor; B.S., M.A., University of Northern Iowa; Ph.D., Iowa State University; 2004

Penny Warner, Associate Professor; B.S., M.S., University of Wisconsin; Ph.D., University of Minnesota; 2000

Maudie Williams, Professor; B.S., Fort Valley State College; M.S., Tuskegee Institute; Ed.D., University of Florida; 1989

Rod Winters, Associate Professor, B.A., Central College; M.A., University of Northern Colorado; Ed.D., University of Northern Iowa; 1998

Shenglan Zhang, Assistant Professor; B.A., Hebei Normal University; M.A.; Beijing Normal University; M.A., University of Southern California; Ph.D., Michigan State University, 2007

TEACHER EDUCATION OVERVIEW

The Education Department delivers courses in the professional education sequence required of all teaching majors. In addition, the department delivers the Business Education major, the Training and Development certificate program, and the Training and Development minor.

As a department, we seek to integrate into pre-service teacher education the knowledge, skills, and professional dispositions necessary to be an effective educator. This includes (1) a philosophy of education; (2) knowledge of the individual learner; (3) understanding of the opportunities, objectives, and responsibilities of schools in a democratic society; (4) practice toward teaching effectively; and (5) the professionalism to work with others as leaders in promoting continual improvement of schools.

Teacher education program requirements outlined under each major are subject to change as Minnesota Board of Teaching licensure rules change. Students should check with their program advisor and the advising website (www.winona.edu/education/advising) regularly for current program/licensure requirements.

PASS/NO CREDIT (P/NC) COURSES

Except for internships and practica, students must take all courses in the major, minor, certificate, and licensures on a grade-only basis. The P/NC option is available to non-majors unless otherwise noted. Courses offered on a pass/no-credit-only or grade-only basis are so designated in the course descriptions.

REPEITION OF COURSES

No Education Department course may be repeated more than once due to withdrawal or earning a grade less than "C."

INCOMPLETE GRADES

The grade of incomplete ("I") may be granted at the discretion of the course instructor in special cases in which, for reasons beyond the student's control, all course assignments were not finished though the student is passing all other aspects of the course. The incomplete must be resolved by the second week of the next semester in which the student enrolls for any course that serves as a prerequisite for other courses.

TEACHER EDUCATION PROGRAMS

Elementary Education, K-6 with:
  • Early Childhood Emphasis, Birth–6
  • Communication Arts and Literature, 5-8
  • Mathematics, 5-8
  • Science, 5-8
  • Social Studies, 5-8
  • Business Education, 5-12
  • Keyboarding for Computer Applications Endorsement, K-8
  • Health Education, 5-12
  • Mathematics, 5-8 and 5-12
  • Music: Instrumental and Classroom, K-12
  • Music: Vocal and Classroom, K-12
  • Physical Education, K-12
  • DAPE endorsement, K-12

Science: Chemistry, 9-12 + General Science 5-8

Science: Chemistry, 9-12

Science: Earth, 9-12 + General Science 5-8

Science: Life, 9-12 + General Science 5-8

Science: Life, 9-12

Science: Physics, 9-12 + 5-8 General Science

Science: Physics, 9-12

Social Studies, 5-12

Special Education: Developmental Adapted Physical Education, Pre-K-12

Special Education: Developmental Disabilities, K-12

Special Education: Learning Disabilities, K-12

Teaching English as a Second Language, K-12

Visual Arts, K-12

World Languages French, K-12

World Languages German, K-12

World Languages Spanish, K-12

The following Education Department majors are available at WSU-Rochester:

• K-6 with Middle Level Communication Arts and Literature 5-8 Specialty
• K-6 with Middle Level Social Studies 5-8 Specialty

All other majors are available only on the Winona campus. See pages 40 and 41 for the articulation of the 2+2 programs available at the WSU-Rochester campus.
ADMISSION TO THE WSU TEACHER EDUCATION PROGRAM

I. Attend the Admissions Meeting the semester before you wish to start taking classes. An Admissions Meeting is scheduled early each semester. At this mandatory meeting, students review the criteria for admission and complete an application form; students are given an Admissions Folder to begin documenting their attainment of the admission criteria. (If a student has been accepted previously but did not start the education sequence the following semester, the student must attend a new admissions meeting and be re-accepted under the criteria in effect for that semester.)

II. Document attainment of minimum admission criteria by submitting a complete Admissions Folder to the Education Department no later than the designated due date. The Admissions Folder is complete only if it contains highlighted documents that demonstrate the admission criteria in effect during that semester.

Current minimum admission criteria, which must be documented, include:
1. 30 semester hours of completed credit of which no more than 2 semester hours may be pass/no credit hours. All transfer credits to be considered for admission must have been accepted by WSU and be designated on the credit evaluation prepared by the WSU Office of Admissions.
2. Cumulative GPA of 2.75 or better (highlight on transcript). Note: Students who do not meet the 2.75 GPA may check a box (“Alternate Admission Requests”) on the application form, requesting the Admission Committee to consider an alternate GPA. The alternate GPA will be calculated based upon the last 30 semester credits completed or quarter credit equivalent. The calculation must include all semester or quarter hour coursework in any given semester needed to meet the 30-semester hour credit requirement.
3. Grade of “B” or better in a 3-credit college-level writing course (ENG 111 if taken at WSU).
4. Grade of “B” or better in a 3-credit college-level speech course (CMST 191 if taken at WSU).
5. Grade of “C” or better in a 3-credit college-level math course (MATH 100 or higher at WSU).
6. Official score report on all three sections of the Pre-Professional Skills Test (PPST): Math, Reading, and Writing. It will take up to 8 weeks from the time a student completes the exam for results of the Writing section to be processed and reported to WSU. It is the student’s responsibility to take the test at least two months before the deadline for completing the Admissions Folder. (Competency in each of the sections is not required for admittance to the WSU program, but it is required to obtain licensure.) Register for these tests online at www.ets.org/praxis, or call the La Crosse test site at 608-785-8968 or the Rochester test site at 507-292-9713.
7. Evidence of having passed the Education Department Writing Proficiency exam. All applicants for admission to the education program are required to pass this exam, which is given during the Admissions Meeting. A $20 fee is payable by check at the time of this exam. Currently enrolled WSU students may have this fee billed to their tuition account.
8. Copy of completed DARS (Degree Audit Reporting System) form prepared by the WSU Office of Admissions for students who have transferred from another institution.
9. Affirmation of a record of good citizenship on the completed admission form.

Notes:
• Admission to teacher education is limited each semester. Additional criteria are used to determine admission to the program if the number of applicants exceeds the number of available seats.
• The University reserves the right to consider as part of the admission and retention policy those dispositions, general health, and scholastic achievement, or other standards as may be appropriate. Students must adhere to the WSU Student Conduct Policy.

RETENTION IN WSU TEACHER EDUCATION PROGRAM

Assistance Plan
Students identified by teacher education faculty as needing assistance in academic, personal, or professional domains are required to attend a review meeting to be called by the Education Department Chairperson and to include the education faculty member involved, appropriate department chairperson(s), and the student’s advisor to demonstrate corrective action in the identified areas of concern. Assistance plans will likely draw upon services such as those provided by the Counseling Center, the Writing Center, Student Support Services, and the Advising and Retention Office. If a student withdraws from the program for any reason, she or he must reapply for admission to continue in the program.

Continuation in Teacher Education
1. The successful completion of conditions outlined in the student assistance plan will be required for continuation in teacher education programs under the following circumstances:
   • A grade of less than “C” in any Education Department course
   • Withdrawal (WD) from the same Education Department course more than once, or withdrawal (WD) from two different Education Department courses in two different semesters
   • Failure to meet GPA requirements outlined below

2. Teacher education students must maintain at least a 2.75 GPA in order to be placed in student teaching. Teacher education students who do not meet this GPA requirement may not student teach until they meet the 2.75 requirement.
3. Student assistance plans and academic warning letters are treated as part of the student’s teacher education record.

Dismissal from Teacher Education Program
Students may be dismissed from the Teacher Education Program for either of the following reasons:
• Failure to document the fulfillment of student assistance plan commitments.
• Breach of ethical responsibilities, as stated in the Minnesota Code of Ethics for Teachers in the WSU Teacher Education Student Handbook. A student dismissed for an ethical violation will not be allowed to continue in any field experience that semester, will be dropped from the Teacher Education Program at the end of the semester, and will not be readmitted to the major.

Student appeals must follow the process outlined in the WSU Teacher Education Student Handbook.

STUDENT TEACHING Requirements
Student teaching is required for all teacher education programs and is done during the final semester at WSU. One full semester is required in an area public school or early childhood program contracted by the University or elsewhere in Minnesota through the Common Market Program. All student teachers will complete a full semester in their licensure area. Student teachers follow the calendars of their respective school districts. The Student Teaching Director will indicate the beginning and ending dates of placement.

Student teaching at the secondary level is required in all major fields. If a second major is completed, the Director of Student Teaching will indicate the WSU student teaching requirements necessary to meet licensure requirements.

Application
Application for student teaching is made to the Director of Student Teaching two semesters prior to the student teaching semester. Students apply for a semester when they will not have other commitments, such as co-curricular, music tours, classes, etc. Applications are available in the Student Teaching Office (Gildemeister Hall).

Student Teaching Progression Policy
If the classroom supervisor or the University supervisor has any concern(s) regarding the student teacher’s performance (academic or professional), it is imperative that the concern be addressed immediately. All three parties—the classroom supervisor, the University supervisor and the student teacher—will meet and discuss all concerns. It is important that all three parties share a common understanding of the concern(s) and the impact upon the completion of a successful student teaching experience. A clear warning will be given, and a written plan developed, stating clear expectations and the consequences if those expectations are not met within a specified timeline. If students do not satisfactorily complete student teaching after remediation, they may apply to graduate with a Professional Studies degree.

LICENSURE: ELEMENTARY AND SECONDARY TEACHING

Minnesota Licensure
The state of Minnesota requires that all teacher education candidates for licensure shall:
• Hold a baccalaureate degree from a college or university that is accredited by the regional association for the accreditation of colleges and secondary schools.
• Demonstrate the Standards of Effective Practice.

* "Additional Requirements" course as defined in Item 3, page 18
• Verify the completion of an approved teacher preparation program.
• Meet the prescribed scores on the Pre-Professional Skills Tests (Praxis I-PPST) in reading, writing, and mathematics as set by the Minnesota Board of Teaching.
• Meet the prescribed scores on the Principles of Learning and Teaching and a test of content knowledge in each area of their licensure (Praxis II).

Praxis II subject assessments include:
- Business Education
- Chemistry
- Communication Arts & Literature, Grades 5-8
- Communication Arts & Literature, Grades 5-12
- Early Childhood Education
- Earth and Space Science
- Elementary Education
- French
- German
- Health
- Mathematics, Grades 5-8
- Mathematics, Grades 5-12
- Music (Instrumental/Vocal)
- Physical Education
- Physics
- Science, Grades 5-8
- Social Studies, Grades 5-8
- Social Studies, Grades 5-12
- Spanish
- Special Education
- Visual Arts

WSU is in full compliance with Title II regulations and its reporting structure. Based on scores reported for the 2003-2006 reporting period, WSU’s institutional pass rate is 96%. The statewide pass rate was 94% in 2003-2006.

In the fall semester of 2006, a total of 1,260 students were enrolled in the WSU teacher preparation program. Of those students, 266 were in supervised student teaching experiences, which required a total of 600 hours in 15 weeks. The student-faculty ratio in supervised student teaching experiences is 264 students to 32 full- and part-time faculty.

Licensure in Other States

Students interested in becoming certified to teach in states other than Minnesota must contact that state’s Department of Education to obtain licensure requirements. Most states will issue a temporary license to allow Minnesota must contact that state’s Department of Education to obtain

SECONDARY TEACHING LICENSES

For detailed information regarding the course requirements in secondary teaching majors, please refer to the associated department in this catalog; for detailed information about Business Education, see page 97. Secondary teaching majors are required to complete the Professional Education Sequence in addition to their major content course requirements.

5-12 Majors (Teaching)

<table>
<thead>
<tr>
<th>B.S. Major</th>
<th>Business Education (BEDT)</th>
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</thead>
<tbody>
<tr>
<td>B.S. Major</td>
<td>Chemistry (CHET)</td>
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<tr>
<td>B.S. Major</td>
<td>Communication Arts and Literature (CALT)</td>
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<tr>
<td>B.S. Major</td>
<td>Earth Science (ESCT)</td>
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<tr>
<td>B.S. Major</td>
<td>Life Science (BLST)</td>
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<tr>
<td>B.S. Major</td>
<td>Mathematics (MTHT)</td>
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<tr>
<td>B.S. Major</td>
<td>Physics (PHST)</td>
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<tr>
<td>B.S. Major</td>
<td>Health Promotion – School Health (HPST)</td>
</tr>
<tr>
<td>B.S. Major</td>
<td>Social Science/History (SSHT)</td>
</tr>
</tbody>
</table>

9-12 Majors (Teaching)

| B.S. Major | Art (ARTT) |
| B.S. Major | French (FRNT) |
| B.S. Major | German (GRMT) |
| B.S. Major | Music (MUSI or MUSV) |
| B.S. Major | Physical Education (PET) |
| B.S. Major | Spanish (SPNT) |
| B.S. Major | Special Education: Learning Disabilities (SELD) |
| B.S. Major | Special Education: Developmental Disabilities (SEDD) |
| B.S. Major | Teaching English as a Second Language (ESLT) |

PROFESSIONAL EDUCATION SEQUENCE FOR K-12 AND 5-12 LICENSURE (32-36 S.H.)

Notes:
1. These courses require formal admission to the teacher education program. (See page 91, “Admission to the WSU Teacher Education Program.”)
2. The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

| EDUC 304 | Human Development and Learning: Middle Level and K-12 (4) OR |
| EDUC 305 | Human Development and Learning: Secondary (4) |
| EDUC 308 | Human Relations and Student Diversity (3) |
| EDUC 311 | Instructional Planning and Assessment: Middle Level and K-12 (3) OR |
| EDUC 312 | Instructional Planning and Assessment: Secondary (3) |
| EDUC 429 | Secondary Reading and Teaching Strategies (4) |
| EDUC 449 | Middle Level Philosophy, Organization and Interdisciplinary Planning (3) |
| EDST 459 | The Professional Educator (3) |
| EDST 465 | Student Teaching - Senior High School (12 - 16) |

PROFESSIONAL EDUCATION SEQUENCE FOR ELEMENTARY EDUCATION LICENSURE (29-32 S.H.)

Notes:
1. These courses require formal admission to the teacher education program. (See page 91, “Admission to the WSU Teacher Education Program.”)
2. The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised
after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

EDUC 303 Human Development and Learning: Elementary Education with Early Childhood Emphasis (4) OR
EDUC 304 Human Development and Learning: Middle Level and K-12 (4)
EDUC 308 Human Relations and Student Diversity (3)*
EDUC 310 Instructional Planning and Assessment: Elementary Education with Early Childhood Emphasis (3)
EDUC 311 Instructional Planning and Assessment: Middle Level and K-12 (3)
EDUC 449 Middle Level Philosophy, Organization and Interdisciplinary Planning (3)
EDUC 459 The Professional Educator (3)
EDST 460 Student Teaching – Elementary Education with Early Childhood Emphasis (1 - 16) OR
EDST 464 Student Teaching – K-6 Middle Level (16)
* EDUC 308 satisfies the University Studies Multicultural Perspectives category.

LICENSURE REQUIREMENTS FOR POST-BACALOARATE STUDENTS

A Bachelor of Arts graduate who holds a degree from WSU or another accredited institution may qualify for teacher licensure by satisfying the following requirements:
1. Complete the Professional Education Sequence (including student teaching in the major field). The student must have a minimum of a "C" grade in each course in the Professional Education Sequence before he or she is allowed to student teach.

Anyone applying for a Minnesota teaching license must complete a course that covers the effects of drugs and alcohol and an approved course in human relations. In addition, Minnesota and Wisconsin both require verification of scores that meet the Minnesota Department of Education’s minimum levels in the reading, writing, and mathematics components of the PRAXIS I test (PPST). In order to be licensed, Minnesota also requires qualifying scores on exit exams called PRAXIS II in the content of all areas in which the teacher will be licensed, and on a test of the Principles of Learning and Teaching. Wisconsin and other states have specific requirements for certification in addition to the completion of WSU’s Professional Education Sequence. Students should contact the Licensure Certification Officer (Gildemeister Hall) for more information about teacher certification.

2. Complete one of the Bachelor of Science teaching majors with a GPA of 2.50-2.75 in the major as required by the major department.
3. Earn a cumulative GPA of 2.75. (All previous college and university credit will be included in computing the cumulative GPA.)
4. Students should consult with the department offering the major for any additional GPA requirements.

To receive a second bachelor’s degree, the student must earn at least 30 semester credits after completing requirement for the first degree. For more information about dual degrees, see page 23.

The Board of Teaching/State Department of Education issues licenses. Application for the license to teach in the State of Minnesota must be made during the last few weeks of the final semester of attendance at WSU. Application forms are available in the Teacher Certification Licensure Office (Gildemeister Hall).

UNIVERSITY STUDIES FLAG REQUIREMENTS

Students may use flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student’s major or minor program. The Education Department offers the following flag courses in the University Studies Program:

FLAG
Oral
EDST 460 Student Teaching – Elementary Education with Early Childhood Emphasis (1-16)
EDST 464 Student Teaching/K-6 Middle Level (1-16)
EDST 465 Student Teaching – Senior High School K-12 Specialty (1-16)
EDST 467 Student Teaching – Early Childhood (Birth to Grade 3) (1-16)

Math/Critical Analysis [3]
EDUC 310 Instructional Planning and Assessment: Elementary Education with Early Childhood Emphasis (3)
EDUC 312 Instructional Planning and Assessment: Secondary (3)
EDUC 410 Foundations of Early Childhood Education (3)
EDUC 449 Middle Level Philosophy, Organization, and Interdisciplinary Planning (3)
EDUC 459 The Professional Educator (3)

Flag courses that can be used to satisfy education major/minor requirements are identified in the lists of required courses and electives in this section. (Flag requirements for business education are listed on page 98.)

ELEMENTARY EDUCATION WITH EARLY CHILDHOOD EMPHASIS (ELEC)
125-128 S.H. Birth to Grade 6

UNIVERSITY STUDIES (48 S.H.)
I. BASIC SKILLS
ENG 111 College Reading and Writing (4)
CMST 191 Introduction to Public Speaking (3)
MATH 100 Survey of Math (3) or higher math course
HERS 204 Personal and Community Health (3)

II. ARTS AND SCIENCES CORE
i. SCRiPTURE AND SCieNCeS Core
In order to be licensed, Minnesota also requires qualifying scores on exit exams called PRAXIS II in the content of all areas in which the teacher will be licensed, and on a test of the Principles of Learning and Teaching. Wisconsin and other states have specific requirements for certification in addition to the completion of WSU’s Professional Education Sequence. Students should contact the Licensure Certification Officer (Gildemeister Hall) for more information about teacher certification.

ILLINOIS AND DIVERSITY
MTED 201 Technology-Based Geometry and Probability for Elementary Teachers (4)
Science and Social Policies Elective (3)
Contemporary Citizenship Elective (3)

LICENSE REQUIREMENTS (16-19 S.H.)
EDUC 321 Children’s Literature (3)
EDUC 352 Integrating Microcomputers into the Classroom (3)
MTED 125 Mathematics for Elementary Teachers (4)
PESS 200 Teaching Elementary Physical Education (3)
HERS 320 Health Education in Elementary Schools (3)
SOC 212 The Family (3)

PROFESSIONAL EDUCATION SEQUENCE (26 S.H.)

Methods (34 S.H.)

Note: These courses require formal admission to the teacher education program. (See page 91, “Admission to the WSU Teacher Education Program.”)
1. These courses require formal admission to the teacher education program. (See page 91, “Admission to the WSU Teacher Education Program.”)
2. The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/ or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

EDUC 303 Human Development & Learning: Elementary Education with Early Childhood Emphasis (4)
EDUC 308 Human Relations and Student Diversity (3)
EDUC 310 Instructional Planning and Assessment: Elementary Education with Early Childhood Emphasis (3)
EDST 459 The Professional Educator (3)
EDST 460 Student Teaching – Elementary Education with Early Childhood Emphasis (1-16)

* "Additional Requirements" course as defined in Item 3, page 18
K-6 WITH MIDDLE LEVEL COMMUNICATION ARTS & LITERATURE 5-8 SPECIALTY (KMCL)
114-117 S.H. Kindergarten - Grade 8

UNIVERSITY STUDIES (48 S.H.)

I. BASIC SKILLS
- ENG 111 College Reading and Writing (4)
- CMST 191 Introduction to Public Speaking (3)
- MATH 100 Survey of Math (3) or higher math course
- HERS 204 Personal and Community Health (3)

II. ARTS AND SCIENCES CORE
- Humanities: ENG 240 Young Adult Literature and HIST 150 OR HIST 151 recommended (6)
- Science electives: SCIE 201 and SCIE 401 (7)
- Social Science: SPED 400 and one elective (6)
- Fine and Performing Arts: MUS 320 (3)

III. UNITY AND DIVERSITY
- MTED 201 Technology-Based Geometry and Probability for Elementary Teachers (4)
- Science and Social Policies elective (3)
- Contemporary Citizenship Elective (3)

LICENSE REQUIREMENTS (16-19 S.H.)
- EDUC 321 Children’s Literature (3)
- EDUC 352 Integrating Microcomputers into the Classroom (3)
- MTED 125 Mathematics for Elementary Teachers (4)
- PESS 200 Teaching Elementary Physical Education (3)
- HERS 320 Health Education in Elementary School (3)
- THAD 141 Oral Interpretation (3)
- Another course in the language arts to be determined by the department.

PROFESSIONAL EDUCATION SEQUENCE (29 S.H.)

Notes:
1. These courses require formal admission to the teacher education program. (See page 91, “Admission to the WSU Teacher Education Program.”)
2. The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

EDUC 304 Human Development & Learning: Middle Level and K-12 (4)
EDUC 308 Human Relations and Student Diversity (3) (EDUC 308 satisfies the University Studies Multicultural Perspectives Category.)
EDUC 311 Instructional Planning & Assessment: Middle Level and K-12 (3)
EDUC 449 Middle Level Philosophy, Organization and Interdisciplinary Planning (3)
EDST 464 Student Teaching/K-6-Middle Level (16)

METHODS (21 S.H.)

Note: These courses require formal admission to the teacher education program. (See page 91, “Admission to the WSU Teacher Education Program.”)

ART 300 Elementary Art Education (3)
EDUC 328 Teaching Reading and Language Arts I (3)
EDUC 329 Teaching Reading and Language Arts II (3)
EDUC 330 Literacy for Second Language Learners (3)
EDUC 333 Teaching Social Studies in the Elementary School (3)
EDUC 334 Teaching Mathematics in the Elementary School (3)
EDUC 335 Teaching of Science & Environmental Studies in the Elementary School (3)

K-6 WITH MIDDLE LEVEL MATHEMATICS 5-8 SPECIALTY (KMMA)
119-122 S.H. Kindergarten - Grade 8

UNIVERSITY STUDIES (49 S.H.)

I. BASIC SKILLS
- ENG 111 College Reading and Writing (4)
- CMST 191 Introduction to Public Speaking (3)
- MATH 100 Survey of Math (3) or higher math course

II. ARTS AND SCIENCES CORE
- Humanities: HIST 150 OR HIST 151 recommended (6)
- Natural Science: SCIE 201 and SCIE 401 (7)
- Social Science: SPED 400 and one additional course (6)
- Fine and Performing Arts: MUS 320 (3)

III. UNITY AND DIVERSITY
- MTED 201 Technology-Based Geometry and Probability for Elementary Teachers (4)
- Science and Social Policies elective (3)
- Contemporary Citizenship Elective (3)

LICENSE REQUIREMENTS (20-23 S.H.)
- EDUC 321 Children’s Literature (3) OR ENG 240 Young Adult Literature (3)
- EDUC 352 Integrating Microcomputers into the Classroom (3) (test-out option available)
- MTED 125 Mathematics for Elementary Teachers (4)
- MTED 221 Middle School Methods in Mathematics (1)
- PESS 200 Teaching Elementary Physical Education (3)
- HERS 320 Health Education in the Elementary School (3)
- STAT 110 Fundamentals of Statistics (3)

PROFESSIONAL EDUCATION SEQUENCE (29 S.H.)

Notes:
1. These courses require formal admission to the teacher education program. (See page 91, “Admission to the WSU Teacher Education Program.”)
2. The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

EDUC 304 Human Development & Learning: Middle Level and K-12 (4)
EDUC 308 Human Relations and Student Diversity (3) (EDUC 308 satisfies the University Studies Multicultural Perspectives Category.)
EDUC 311 Instructional Planning & Assessment: Middle Level and K-12 (3)
EDUC 449 Middle Level Philosophy, Organization and Interdisciplinary Planning (3)
EDST 464 Student Teaching/K-6-Middle Level (16)

METHODS (21 S.H.)

Note: These courses require formal admission to the teacher education program. (See page 91, “Admission to the WSU Teacher Education Program.”)

ART 300 Elementary Art Education (3)
EDUC 328 Teaching Reading and Language Arts I (3)
EDUC 329 Teaching Reading and Language Arts II (3)
EDUC 330 Literacy for Second Language Learners (3)
EDUC 333 Teaching Social Studies in the Elementary School (3)
EDUC 334 Teaching Mathematics in the Elementary School (3)
EDUC 335 Teaching of Science & Environmental Studies in the Elementary School (3)
EDUC 434 Remedial Mathematics Methods (3)

K-6 WITH MIDDLE LEVEL SCIENCE 5-8 SPECIALTY (KMSC)
122-126 S.H. Kindergarten - Grade 8

UNIVERSITY STUDIES (48 S.H.)

I. BASIC SKILLS
- ENG 111 College Reading and Writing (4)
- CMST 191 Introduction to Public Speaking (3)
- MATH 100 Survey of Math (3) or higher math course
II. ARTS AND SCIENCE CORE

Humanities: HIST 150 OR HIST 151 recommended and one elective (6)
Science: GEOS 120 and GEOS 130 (7)
Social Science: SPED 400 and one additional course (6)
Fine and Performing Arts: MUS 320 (3)

III. UNITY AND DIVERSITY

MTED 201 Technology-Based Geometry and Probability for Elementary Teachers (4)
Science and Social Policies: GEOS 103 recommended (3) OR BIOL 104 for Wisconsin licensure
Contemporary Citizenship Elective (3)

LICENSE REQUIREMENTS (27-31 S.H.)

EDUC 321 Children's Literature (3) OR ENG 240 Young Adult Literature (3)
EDUC 352 Integrating Microcomputers into the Classroom (3)
MTED 125 Mathematics for Elementary Teachers (4)
PESS 200 Teaching Elementary Physical Education (3)
HERS 320 Health Education in Elementary School (3)
Science: *BIOL 118 recommended OR *BIOL 242 (4)
Science: *CHEM 108 (4) or a combination of CHEM 212 (4) AND CHEM 213 (4)
Science: *PHYS 115 (3)

PROFESSIONAL EDUCATION SEQUENCE (29 S.H.)

Notes:
1. These courses require formal admission to the teacher education program. (See page 91, “Admission to the WSU Teacher Education Program.”)
2. The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

EDUC 304 Human Development & Learning: Middle Level and K–12 (4)
EDUC 308 Human Relations and Student Diversity (3)
EDUC 311 Instructional Planning & Assessment: Middle Level and K–12 (3)
EDUC 449 Middle Level Philosophy, Organization and Interdisciplinary Planning (3)
EDST 464 Student Teaching/K–6–Middle Level (16)

METHODS (18 S.H.)

Note: These courses require formal admission to the teacher education program. (See page 91, “Admission to the WSU Teacher Education Program.”)

ART 300 Elementary Art Education (3)
EDUC 328 Teaching Reading and Language Arts I (3)
EDUC 329 Teaching Reading and Language Arts II (3)
EDUC 333 Teaching Social Studies in the Elementary School (3)
EDUC 334 Teaching Mathematics in the Elementary School (3)
EDUC 335 Teaching of Science & Environmental Studies in the Elementary School (3)

Science electives: SCIE 201 and SCIE 401 (7)
Social Science: SOC 150 (3)
Fine and Performing Arts: MUS 320 (3)

III. UNITY AND DIVERSITY

MTED 201 Technology-Based Geometry and Probability for Elementary Teachers (4)
Science and Social Policies elective (3)
Contemporary Citizenship Elective (3)

LICENSE REQUIREMENTS (27-31 S.H.)

EDUC 321 Children's Literature (3) ENG 220, ENG 221, or ENG 240 (3)
EDUC 352 Integrating Microcomputers into the Classroom (3)
MTED 125 Mathematics for Elementary Teachers (4)
PESS 200 Teaching Elementary Physical Education (3)
HERS 320 Health Education in Elementary School (3)
SPED 400 Education of Exceptional Children/Youth (3)
Non-Western History: HIST 123 or HIST 165 or HIST 170 (3)
Western Civilization: *HIST 120 or *HIST 121 or *HIST 122 (3)
Social Science: *ECON 202 (3)
Social Science: *GEOG 110 or GEOG 320 (3)

PROFESSIONAL EDUCATION SEQUENCE (29 S.H.)

Notes:
1. These courses require formal admission to the teacher education program. (See page 91, “Admission to the WSU Teacher Education Program.”)
2. The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

EDUC 304 Human Development & Learning: Middle Level and K–12 (4)
EDUC 308 Human Relations and Student Diversity (3)
EDUC 311 Instructional Planning & Assessment: Middle Level and K–12 (3)
EDUC 449 Middle Level Philosophy, Organization and Interdisciplinary Planning (3)
EDST 464 Student Teaching/K–6–Middle Level (16)

METHODS (18 S.H.)

Note: The courses require formal admission to the teacher education program. (See page 91, “Admission to the WSU Teacher Education Program.”)

ART 300 Elementary Art Education (3)
EDUC 328 Teaching Reading and Language Arts I (3)
EDUC 329 Teaching Reading and Language Arts II (3)
EDUC 333 Teaching Social Studies in the Elementary School (3)
EDUC 334 Teaching Mathematics in the Elementary School (3)
EDUC 335 Teaching of Science & Environmental Studies in the Elementary School (3)

COURSE DESCRIPTIONS

Note: The prefix for Education courses is EDUC except where noted otherwise.

115 - Improving Reading and Study Skills (1 S.H.)
To assist students who may have problems with reading skills and to help them develop efficient study habits to participate successfully in college level courses. Offered each semester. P/NC only.

120 - Parenting (3 S.H.)
The social, emotional, physical, and intellectual development of children from birth to adolescence is outlined. Parenting strategies and child-rearing practices are discussed. Grade only. Offered each semester.

150 - Introductory Field Experience (1 S.H.)
A first semester teaching assistant experience at a selected school level for either an introductory classroom experience or an additional classroom experience. May be repeated once for two credits. Prerequisite: Instructor’s permission. P/NC Only. Offered each semester. Note: Persons enrolling in EDUC 150 must arrange their schedule with the Field Experience Director in the Education Department prior to pre-registration.
299 - Latino and Latin American Perspectives (3 S.H.) This course investigates Latino demographic growth in Minnesota and creates intercultural exchanges between WSU students and Latino K-12 students with Big Brothers Big Sisters of Greater Winona. The course will address issues pertinent to citizen development such as community-based learning and mentoring. Students will also learn about the history of racism, prejudice, and cultural deficit theory in the United States. Students will understand their own personal biases, where these biases came from, and how to think critically about contemporary issues pertinent to Latino populations in Minnesota. Grade only. Offered each semester.

303 - Human Development and Learning: Elementary Education with Early Childhood Emphasis (4 S.H.) This course introduces students to the psychological and social dimensions of learning and development and their influence on students' participation in school. The course focuses on psychological theories of learning and development, classroom management, and the relationship between psychological theory and classroom practice in early childhood and primary classrooms. 30-40 hours of field experience is required in addition to regularly scheduled on-campus class sessions. Concurrent enrollment with EDUC 310. Grade only. Prerequisite: Admission to the teacher education program. Offered each semester.

304 - Human Development and Learning: Middle Level and K-12 (4 S.H.) This course introduces students to the psychological and social dimensions of learning and development and their influence on students' participation in school. The course focuses on psychological theories of learning and development, classroom management, and the relationship between psychological theory and classroom practice in middle and elementary school classrooms. 30-40 hours of field experience is required in addition to regularly scheduled on-campus class sessions. Concurrent enrollment with EDUC 311. Grade only. Prerequisite: Admission to the teacher education program. Offered each semester.

305 - Human Development and Learning: Secondary (4 S.H.) This course introduces students to the psychological and social dimensions of learning and development and their influence on students' participation in school. The course focuses on psychological theories of learning and development, classroom management, and the relationship between psychological theory and classroom practice in secondary classrooms. 30-40 hours of field experience is required in addition to regularly scheduled on-campus class sessions. Concurrent enrollment with EDUC 312. Grade only. Prerequisite: Admission to the teacher education program. Offered each semester.

308 - Human Relations and Student Diversity (3 S.H.) A basic course in human relations for education majors. The course takes a laboratory and a directed study approach in areas such as communication, group interaction, trust, interpersonal relationships, and the study of minorities, ethnic groups, and second language learners. Prerequisite: Admission to the teacher education program. Offered each semester.

310 - Instructional Planning and Assessment: Elementary Education with Early Childhood Emphasis (3 S.H.) Principles of curriculum formation including writing objectives, unit planning, and daily lesson planning. Evaluation techniques to determine achievement of objectives through teacher-made tests, performance assessments, standardized tests, and observation techniques as well as statistics of measurement, specialized measurement instruments, and interpretation. Taken concurrently with EDUC 303. Grade only. Prerequisite: Admission to the teacher education program. Offered each semester.

311 - Instructional Planning and Assessment: Middle Level and K-12 (3 S.H.) Principles of curriculum formation including writing objectives, unit planning, and daily lesson planning for elementary and middle levels form the emphasis of this course. Assessment, measurement, and evaluation techniques are studied to determine achievement of objectives through teacher-made tests, performance assessments, standardized tests, and observation techniques. Statistics of measurement, specialized measurement instruments and test interpretation are also studied. Thirty clock-hours of field experience are required, in addition to the regularly scheduled on-campus class sessions. Taken concurrently with EDUC 304. Grade only. Prerequisite: Admission to the teacher education program. Offered each semester.

312 - Instructional Planning and Assessment: Secondary (3 S.H.) Principles of curriculum formation including writing objectives, unit planning, and daily lesson planning for secondary education form the emphasis of this course. Assessment, measurement, and evaluation techniques are studied to determine achievement of objectives through teacher-made tests, performance assessments, standardized tests, and observation techniques. Statistics of measurement, specialized measurement instruments and test interpretation are also studied. Thirty clock-hours of field experience are required, in addition to the regularly scheduled on-campus class sessions. Taken concurrently with EDUC 305. Grade only. Offered each semester.

321 - Children's Literature (3 S.H.) This course teaches students about children's literature. Consideration will be given to locating and evaluating early literacy, primary, and intermediate children's books and to the method of organizing, teaching, and evaluating a literature program at all age levels. Current issues and research will be examined. Grade only. Offered each semester.

328 - Teaching Reading and Language Arts I (3 S.H.) The first of a two-course sequence in literacy methods examines the integration of reading, writing, listening, speaking, and viewing competencies in a unified literacy curriculum for learners ages three to eight (Pre-Kindergarten-3rd grade). Instructional emphasis is placed upon assessment, fluency, active construction of meaning, and matching learner capabilities with appropriate instructional strategies. Prerequisites: EDUC 303 or 304, 310 or 311. Offered each semester.

329 - Teaching Reading and Language Arts II (3 S.H.) The second of a two-course sequence in literacy methods extends the examination of reading, writing, listening, speaking, and viewing competencies by focusing on learners ages nine to fourteen (grades 4-8). Emphasis is placed upon strategies for expanding purposes and genres, integration of assessment and instruction, and teaching for self-regulation of comprehension, composing, and editing strategies. Prerequisite: EDUC 328. Offered each semester.

330 - Literacy for Second Language Learners (3 S.H.) This course addresses the teaching of literacy for students with a primary language other than English. After examining the interwoven nature of language and culture, the course will focus on the instructional approaches to meet the needs of second language learners in school settings. Special attention will be given to the role of home school communication in programs for second language learners. Prerequisite: EDUC 328. Grade only. Offered yearly.

331 - Teaching Social Studies in Secondary Schools (3 S.H.) Materials and methods of teaching geography, history and civics, including the newest textbooks, maps, pictures and other electronic visuals. Prerequisites: EDUC 305 and 312. Offered yearly.

333 - Teaching Social Studies in the Elementary School (3 S.H.) Course covers social studies curriculum for elementary grades. Development of teaching competencies in small group instruction, guiding student inquiry and conducting discovery lessons. Curriculum materials are studied and evaluated for use in the elementary classrooms. Field experience, microteaching, unit planning, and the use of childrens literature in the social studies curriculum are included in this course. Prerequisites: EDUC 303 and 310, or 304 and 311, or 305 and 312. Offered each semester.

334 - Teaching Mathematics in the Elementary School (3 S.H.) Teaching competencies such as guiding student inquiry, demonstrating mathematical principles and procedures, and using a variety of instructional aids are developed in relation to scope and sequence of elementary curriculums. Prerequisites: EDUC 303 and 310, or 304 and 311. Offered each semester.

335 - Teaching of Science and Environmental Studies in the Elementary School (3 S.H.) Study and guided application of current materials and methods designed for science and environmental education. Theoretical background and practical skills necessary for teaching both process and content curriculums are developed through individual and group work, as well as field experiences. Prerequisites: EDUC 303 and 304, or 304 and 311, or SCIE 201. Offered each semester.

352 - Integrating Microcomputers into the Classroom (3 S.H.) This course covers basic technological knowledge, which will enable the teacher to plan technology-based instruction, integrate technology into the curriculum, and enhance the teacher's technological competencies. Offered each semester. (Test-out option available.)

410 - Foundations of Early Childhood Education (3 S.H.) This is the introductory course in early childhood education examining the history, theory, trends, and contemporary issues in early childhood education as well as the role of the early childhood teacher. Prerequisite: Admission to the teacher education program. Offered each semester.

413 - Development in Infancy (3 S.H.) This course addresses the topics of genetics, prenatal development, birth, and physical, social, emotional, and cognitive development in the first two years with emphasis on care in group settings. Includes 30-hour practicum experiences with infants and toddlers. Prerequisites: EDUC 303 and 410. Grade only. Offered yearly.

414 - The Developing Child in the Social World (3 S.H.) This course covers physical, social, emotional, language and cognitive development of children ages 3-6, in learning environments and the
community relationships needed to support this development. Prerequisites: EDUC 303 and 410. Grade only. Offered yearly.

416 - Early Childhood/Kindergarten Curriculum (4 S.H.) Planning the curriculum and developing effective teaching strategies and assessment methods for young children from 2 and 1/2 years old through 5 years old. Students gain experience in a supervised preschool program. Prerequisites: EDUC 303 and 410. Grade only. Offered each semester.

424 - Organization and Administration of Early Childhood Education Programs (3 S.H.) Local and state laws governing various types of early childhood programs are studied. Financial aspects, buildings, personnel and administrative matters pertaining to the establishment of programs are discussed. Prerequisites: EDUC 303, 410, and 416. Grade only. Offered yearly.

429 - Secondary Reading and Teaching Strategies (4 S.H.) Emphasis is on reading comprehension, strategies, and study skills in content areas, lesson planning, lesson presentation skills, and media techniques appropriate to the instructional process. Prerequisites: EDUC 305, 312. Offered each semester.

434 - Remedial Mathematics Methods (3 S.H.) This course covers diagnostic and remediation techniques to facilitate acquisition of basic mathematics skills. Prerequisite: EDUC 334 or instructor's permission. Offered each semester.

442 - The Adult Learner (3 S.H.) This course focuses on the characteristics and development of adult learners. Offered yearly.

449 - Middle Level Philosophy, Organization and Interdisciplinary Planning (3 S.H.) The major focus of this course is middle level philosophy, organization, and interdisciplinary team planning. The major objective of this course is to provide future middle school teachers with a background in the components of the middle school movement and planning appropriate instructional strategies for middle level learners. This course is designed for secondary education majors, K-12 majors, and those seeking K-6 MS licensure. Field experiences are required in addition to the regularly scheduled on campus class sessions. Prerequisites: EDUC 304 and 311 or 305 and 312. Grade only. Offered each semester.

450 - Comparative Education (3 S.H.) A study of the purposes, organization, offerings, and achievements of education in selected foreign countries. Grade only. Offered yearly.

459 - The Professional Educator (3 S.H.) This course is designed to familiarize teacher education majors and others associated with the education profession with the historical and philosophical foundations of public education, school organizational patterns, legal responsibilities, professional organizations, and related educational issues. Additional components will involve classroom management and topics related to inclusive and special education. Prerequisites: EDUC 303, 304, or 305, 310, 311, or 312. Take this course the semester prior to student teaching. Offered each semester.

460 - Student Teaching (EDST) - Elementary Education with Early Childhood Emphasis (1-16 S.H.) A capstone student teaching experience. One full semester of student teaching on a daily, full-time basis in an appropriate educational school setting. Prerequisites: All professional courses required for the major. P/NC only.

464 - Student Teaching (EDST) - K-6 Middle Level (1-16 S.H.) One full semester of student teaching on a full-day basis in a middle school. Offered each semester. Prerequisites: All professional courses required for the major. P/NC only.

465 - Student Teaching (EDST) - Senior High School K-12 Specialty (1-16 S.H.) A capstone student teaching experience. One full semester of student teaching on a daily, full-time basis in an appropriate educational school setting. Prerequisites: All professional courses required for the major. P/NC only.

467 - Student Teaching (EDST) - Early Childhood (Birth to Grade 3) (1-16 S.H.) Supervised teaching in two (2) Early Childhood placements. Offered each semester. P/NC only.

483 - Multicultural Children, Youth, and Families (2 S.H.) This course provides structure for acquiring, building and demonstrating mechanisms for integrating multicultural content into mainstream curricula. Specific attention is geared to goals, concepts and instructional planning in elementary education addressing culture, ethnicity, race, gender, language, socioeconomic levels, religion, age, ethics and exceptionality. The social reconstructionist approach is infused to provide demonstrations of transforming teaching for equity and justice. Offered yearly.

490 - Individual Problems in Education (1-3 S.H.) Opportunity for the qualified advanced undergraduate and graduate student to work independently. Topics may include research, development of special projects, selected readings, etc. Time-arranged. Offered each semester. Prerequisites: Major advisor's permission; completion of the Professional Sequence, and for elementary majors, completion of the Professional Education Sequence. May be repeated to a total of 4 credits. P/NC only for undergraduates.

498 - Workshops and Seminar (1-3 S.H.) The subject matter to be developed by the Department and instructor prior to the workshop or seminar. Students may repeat the course without limitation on the number of credits as long as the subject matter is different. P/NC only. Offered on demand.

499 - Workshops and Seminar (1-3 S.H.) The subject matter to be developed by the Department and instructor prior to the workshop or seminar. Students may repeat the course without limitation on the number of credits as long as the subject matter is different. Grade only. Offered on demand.
Training and Development
The Training and Development minor or certification program prepares individuals for professional positions in employer-based training and employee development programs; this program augments many majors. Additionally, it prepares students to fulfill the rapidly expanding training and training administrator market. As one of the most rapidly growing career opportunity areas, the training and development field offers careers in positions such as trainer/instructor, instructional technologist, course developer/designer, training specialist, and training manager.

The training and development minor or certification program includes course work in seven basic areas: business organization and management, instruction and program development, business communications, interpersonal relations, human resources, adult learning, and computers. These competency areas coincide with the competencies that the American Society for Training and Development (ASTD) recommends for well-qualified training professionals. Organizations with training and employee development programs provide internship positions that allow students to actively apply knowledge and skills in a “real” training environment.

Vocational–Technical College Transfer Policy for Business Education Teaching Majors
Students who have completed a one- or two-year business program at a technical or community college may apply for a transfer of approved business credits. Students’ transcripts are evaluated by Business Education faculty. (Refer to page 5 for information about transfer of technical or community college credits.) This transfer policy applies only to students majoring in the teaching of business education.

ADMISSION AND RETENTION REQUIREMENTS
For information about admission and retention requirements, see page 91.

STUDENT TEACHING REQUIREMENTS
To receive departmental recommendation for student teaching, a student must:
1. Complete all courses required for the major.
2. Have a minimum 2.75 overall GPA and a 2.5 GPA in the major.
3. Meet the admission requirements of the College of Education listed on page 91.

GRADUATION REQUIREMENTS
For a checklist of the University’s graduation requirements, see page 23.

BUSINESS EDUCATION TEACHING MAJORS
Students interested in the business education teaching major should contact the Business Education office for an advisor. Teaching majors must take all courses in the Professional Education Sequence for secondary majors in addition to courses in the content area. Refer to the education program requirements on page 92, or refer to either of these websites: www.winona.edu/bued or www.winona.edu/education. Please refer to the business education website for information regarding the articulation agreement with Minnesota State University—Mankato for the Business Education program.

The business education faculty recommends for student teaching only those students who have a minimum 2.75 overall GPA and a 2.5 GPA in the major. See admission requirements for teacher education on page 91.

UNIVERSITY STUDIES FLAG REQUIREMENTS
Students may use flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student’s major or minor program. The Business Education program offers the following flag courses in the University Studies Program:

<table>
<thead>
<tr>
<th>FLAG</th>
<th>Writing Other</th>
<th>BUED 333 Business Communication (3)</th>
<th>BUED 335 Information Resource Management (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUED 401 General Methods and Foundation (3)</td>
<td>BUED 403 Technology and Business Teaching Methods (3)</td>
<td>BUED 410 Administrative Communication (3)</td>
<td></td>
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</tbody>
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B.S. MAJOR BUSINESS EDUCATION (Teaching) (BEDT)
58 S.H. (No Minor Required) Grade 5-12

REQUIRED COURSES (52 S.H.)

Business Education – BUED (34 S.H.)
201 Keyboarding (1)
203 Document Production and Procedures (2)
215 Personal Finance (3)
320 Business Technology (3)
330 Advanced Business Technology (3)
333 Business Communication (3)
335 Information Resource Management (3)
340 Integrated Information Systems Applications (3)
360 Interpersonal Business Relations (3)
401 General Methods and Foundations (3)
403 Technology and Business Teaching Methods (3)
435 Information Systems/Personnel Management (3)
490 Capstone Seminar (1)

Accounting – ACCT (6 S.H.)
211 Financial Accounting Principles (3)
212 Managerial Accounting Principles (3)

Business Administration – BUSA (3 S.H.)
291 Legal Environment of Business (3)

Economics and Finance (9 S.H.)
ECON 201 Principles of Microeconomics (3)
ECON 202 Principles of Macroeconomics (3)
FIN 360 Corporate Finance (3) OR

FIN 201 Introduction to Finance (3)
Marketing – MKTG (3 S.H.)
300 Principles of Marketing (3)

RECOMMENDED ELECTIVES (3 S.H.†)
Business Administration – BUSA
106 Introduction to Business (3)
206 Administrative Procedures (3)
218 Job Search Strategies: Résumé (1)
219 Job Search Strategies: Application Letter and Interview (1)
336 Information Services Seminar (1)
350 Quality of Work Life (3)
410 Administrative Communication (3)
412 Team Building (1-3)
440 Training and Employee Development (3)
441 Training Techniques and Media (3)
470 Seminar in Training and Education for Business (1-3)

Education – EDUC
442 The Adult Learner (3)
† Other electives may be taken with approval from the student’s advisor.

Note: The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Secondary Teaching Licenses courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or website.
B. S. MINOR TRAINING AND DEVELOPMENT (TRDV)
24 S.H.

REQUIRED COURSES (15 S.H.)

Business Education – BUED (12 S.H.)

335 Information Resource Management (3)
340 Training and Employee Development (3)
441 Training Techniques and Media (3)

Education – EDUC (3 S.H.)

442 The Adult Learner (3)

FOUNDATION REQUIREMENTS (9 S.H.)

BUED 320 Business Technology (3) OR
MIS 202 Microcomputers in Business (3)
BUED 360 Interpersonal Business Relations (3)
BUED 435 Information Systems/Personnel Management (3) OR
MGMT 317 Management of Human Resources (3)

TRAINING AND DEVELOPMENT CERTIFICATE
15 S.H.

REQUIRED COURSES (15 S.H.)

BUED 410 Administrative Communication (3)
BUED 440 Training and Employee Development (3)
BUED 441 Training Techniques and Media (3)
EDUC 442 The Adult Learner (3)
BUED 470 Seminar in Training and Education for Business (1-3)

COURSE DESCRIPTIONS (BUED)

201 - Keyboarding (1 S.H.)
Computer keyboarding proficiency and mastery are developed with skill building and proofreading techniques. Technique, speed, and accuracy are emphasized. Offered each semester.

202 - Introduction to Word/Information Processing (3 S.H.)
Knowledge and application of word processing, spreadsheet and database software for personal productivity and production using integrated software. Prerequisite: BUED 201 or equivalent.

203 - Document Production and Procedures (2 S.H.)
Fundamental word processing software knowledge and skills are developed for personal and business uses. Current input devices and methods, such as voice and slate, are included. Prerequisite: BUED 201 or equivalent. Offered yearly.

206 - Administrative Procedures (3 S.H.)
Administrative procedures and methods for implementing the administrative support function.

215 - Personal Finance (3 S.H.)
For all students. Units focus on the major personal financial planning problems that individuals and families encounter. Emphasis on using the activity involved with personal financial planning as a framework for developing effective money management practices. Consumer units include budgets, banking, tax strategies, investments, credit, insurance, real estate, interest, pensions, and estate and retirement planning. Offered each semester.

218 - Job Search Strategies: Resume (1 S.H.)
An examination of job search strategies with emphasis on the written and oral communications necessary to market one's potential. Special focus on developing a competitive résumé. Offered each semester.

219 - Job Search Strategies: Application Letter and Interview (1 S.H.)
An examination of job search strategies with emphasis on the written and oral communications necessary to market one's potential. Special focus is placed on developing effective application correspondence, follow-up correspondence, and interviewing techniques. Offered each semester.

320 - Business Technology (3 S.H.)
Intermediate design principles for print-based documents and computer-generated outputs such as word processing, database, spreadsheets, and use of presentation and voice recognition technology. Publishing features will be used to enhance materials graphically for more effective communication. Prerequisite: BUED 203 or equivalent.

330 - Advanced Business Technology (3 S.H.)
Expert concepts of word processing, database, spreadsheets, and use of presentation and voice recognition technology. Provides a vocabulary and understanding of computers in business, including business application software. Prerequisite: BUED 203 and BUED 320 or equivalent. Offered yearly.

332 - Business Report Writing (1-2 S.H.)
Principles and practices for effective written reports. Emphasis on a functional writing style applied to routine, periodic and analytical reports. Includes formal reports based on secondary and primary research methods.

333 - Business Communication (3 S.H.)
The application of a functional writing style to produce effective business communications: memos, correspondence, and short informal reports. Includes basic strategies of communication management, communication technology, intercultural business communication, and collaborative organizational writing. Offered yearly.

335 - Information Resource Management (3 S.H.)
A study of information and image media systems, and the structures and functions related to the planning, controlling, organizing, and leadership activities of the information and image systems manager. Image media as information storage include paper, micrographics, computer-output microfilm, and electronic as well as other forms of information generation, recording, and storage. Focuses on image technology, computer-based record management systems, archival management, forms design, control policies and procedures, legal retention requirements, disaster prevention and recovery, information value and security, and information as a critical organizational asset. Offered yearly.

336 - Information Services Seminars (1 S.H.)
A series of seminars to include such topics as time management, administrative workplace layout, interpersonal relations, microcomputer applications in the administrative area, active listening, and applied problem solving.

340 - Integrated Information Systems Applications (3 S.H.)
Information management systems concepts for the user and/or designer of information systems; systems analysis design system outputs, inputs, data files, methods and procedures, and systems and procedures analysis. Includes software applications. Overview and introduction to networking technologies and foundations of local area networks. Prerequisite: BUED 203 or equivalent. Offered yearly.

350 - Quality of Work Life (3 S.H.)
Focuses on a quality of work life approach to diversity in the workplace including gender, cultural, age, social, racial, and ethnic differences. Examines professional and interpersonal dynamics within organizational cultures, human resource values and politics. Includes leadership styles and career enhancement strategies. An experiential approach to attitudinal and professional development. Offered alternate years.

360 - Interpersonal Business Relations (3 S.H.)
Confronting and coping with interpersonal problems specific to the business environment. Focus is on strategies for managing productive work relationships. Includes leadership styles, power and authority, listening and feedback skills, conflict resolution, relating to minority groups, and multicultural business relationships. Offered yearly.

397 - Information Services Internship (3 S.H.)
Practical administrative management work experience in a supervised workplace setting. Contact BUED faculty for requirements. P/NC only. Offered each semester.

398 - Training & Development Internship (3 S.H.)
An on-the-job supervised work experience in training and development. Contact BUED faculty for requirements. P/NC only. Offered each semester.

399 - General Internship (1-6 S.H.)
On-the-job supervised work experience in administrative information systems. Credit applies to general electives, not to major credits/requirements. Contact BUED faculty for requirements. P/NC only. Offered each semester.

401 - General Methods and Foundations (3 S.H.)
A course for business teacher preparation in the methods and materials of business education. Topics include philosophical foundations of business education, general curriculum trends, and instructional change. Focuses on the abilities and competencies required in the teaching of business law, consumer education, general business, and economics. Open only to Business Education teaching majors/minors. Recommended prerequisites: EDUC 305 and EDUC 312. Grade only. Offered yearly.

403 - Technology and Business Teaching Methods (3 S.H.)
A study of strategies for teaching technology and business subjects. Teaching practices are related to theories of learning and include specific techniques of classroom management, motivation, planning, evaluation, and appropriate use and management of technology. Open only to Business Education majors/minors. Recommended prerequisites: EDUC 305 and EDUC 312. Grade only. Offered yearly.

410 - Administrative Communication (3 S.H.)
Leadership communication for personnel at all organizational levels. An emphasis on spoken communication includes such topics as persuasive proposals, presentations, and case analysis; meeting management; visual briefing; and multimedia and communication technology applications. Offered yearly.

"Additional Requirements" course as defined in Item 3, page 18
412 - Team Building (3 S.H.)
Introduces teamwork concepts and skills as a collaborative approach to improved performance. Covers structural and process attributes of teams with the objective of enhancing team leader and participant effectiveness; focuses on designing and implementing an effective system, blending individual and team performance. Team participation skills applied to collaborative class activities. Offered yearly.

434 - Word/Information Processing for Paralegals (3 S.H.)
Knowledge of word/information processing in the paralegal profession. Includes information processing software and legal research using the Internet. Prerequisite: Basic keyboarding proficiency. Grade only. Not open to Business Education majors.

435 - Information Systems/Personnel Management (3 S.H.)
The study of effective management for the information function in organizations and principles of administrative personnel management. Focuses on the feasibility, design, justification, implementation, and evaluation of administrative information systems. Administrative policies and procedures applied to personnel issues, recruitment and hiring, performance appraisal, employee productivity, and managerial communication. Prerequisite: BUED 330. Offered yearly.

440 - Training and Employee Development (3 S.H.)
An overview of the training and development field with an emphasis on the systems approach to training program design. Focuses on the key phases of training program development: reassessment, needs analysis, design implementation, and evaluation. Includes the principle of instructional design using the experiential learning approach. Offered yearly.

441 - Training Techniques and Media (3 S.H.)
Instructional techniques, methods and multimedia to use for effective employer-based learning delivery systems. Topics include trainer styles, training structures and formats, instructional presentation skills, training aids and technology, and computer-based training. A skills-based approach to effective training for adult learners. Offered yearly.

470 - Seminar in Training and Education for Business (1-3 S.H.)
Specific subject matter is arranged by the BUED faculty. May be repeated when offered with different subject matter content and title. Offered when demand warrants.

480 - Independent Studies in Training and Education for Business (1-3 S.H.)
Reading and/or research in relevant areas of a student’s special interest. Prerequisite: Instructor’s permission.

490 - Capstone Seminar (1 S.H.)
A synthesis of major course work and internship experiences for seniors in BUED programs. A comprehensive analysis and compilation of students’ learning outcomes; a culminating experience and evaluation of indicators that demonstrate students’ success in achieving program learning outcome goals. Offered yearly.

**ENGINEERING**
Stark Hall, Room 203 (507-457-5685)
www.winona.edu/engineering
Beckry Abdel-Magid (Chairperson)

**FACULTY**
Beckry Abdel-Magid, Professor; B.S., University of Khartoum; M.S., Ph.D., University of Wisconsin-Madison; 1990 –
Keith Dembozzy, Professor; B.S., Rensselaer Polytechnic Institute; M.S., Youngstown State University; M.B.A., University of Utah; Ph.D., Rensselaer Polytechnic Institute; 1990 –
Maryam Edalatoo-Grami, Professor; B.S., M.S., Shiraz University, Iran; Ph.D., University of California-Davis, 1993 –
Fariborz Parsi, Professor; B.S., M.S., Ph.D., University of South Carolina, Columbia; 1991 –
Saeed Ziaee, Assistant Professor; B.S., Ph.D., University of Texas at Austin; 2003 –

**PURPOSE**
The Department of Engineering offers the Bachelor of Science degree in composite materials engineering. Composites represent a new group of manufactured materials. These lightweight materials, which have high strength and stiffness, are formed by combining reinforcing fibers in a polymer, ceramic, or metal matrix. Over the past three decades, the use of composites has grown significantly in the following industries: aerospace, automotive, biotechnology, construction, electronics, marine, and sporting goods. The future for people educated in the engineering of composite materials is bright.

The Composite Materials Engineering (CME) Program has been developed to meet the engineering needs of the composites industry and is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). Graduates from this program will be prepared to practice engineering at a professional level and to enter the composites industry in positions that provide opportunities for professional growth. Graduates also will be prepared to enter graduate-level programs in composite materials and other related engineering disciplines. The CME Program is the only accredited undergraduate program in the United States that offers a Bachelor of Science degree in composite materials engineering. Majors in the program may choose to focus on the design, analysis, and manufacture of composite structures (mechanical focus); or on the development, processing, and chemistry of the materials used in composites including fibers, matrices and fiber/matrix systems (chemical focus).

**MISSION/OBJECTIVES/OUTCOMES**
The mission of the CME Program is "to serve society by developing creative engineering minds for the world of tomorrow!"

- **The Educational Objectives of the CME Program** are to prepare graduates who:
  a. Thoroughly understand the materials, processes, and performance of composites.
  b. Can successfully address engineering problems within a given global, economic, environmental, and societal context.
  c. Can design creative solutions to meet the needs of the composites industry.
  d. Can design and recommend tests and properly interpret the results.
  e. Can effectively communicate views and interact with others.
  f. Can work in and function within multidisciplinary teams.
  g. Understand their responsibility to the engineering profession and demonstrate it by properly responding to ethical quandaries.
  h. Have knowledge of contemporary issues and recognize the importance of sustaining this knowledge through life-long learning.

- **The Learning Outcomes of the CME Program** are demonstrated by students who attain:
  1. An understanding of the fundamentals of mathematics, science, and engineering science and their application in engineering.
  2. The ability to identify, formulate, model, and solve engineering problems.
  3. The ability to use state-of-the-art engineering tools (experimental, computational, and statistical) necessary to select, analyze, design, fabricate, and test materials.
  4. The ability to design and conduct experiments as well as to analyze and interpret data related to structure, properties, processing, and performance of materials.
  5. The theoretical knowledge and hands-on ability to confidently design components, systems, and processes to meet the needs of the composites industry within a set of realistic constraints including economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
  6. The ability to communicate effectively in oral, written, and visual forms.
  7. The ability to work effectively in a team environment.
8. An understanding of the proper response to ethical issues and their responsibility to the engineering profession.
9. An understanding of the impact of their engineering decisions in a global, economic, environmental, and societal context.
10. Knowledge of contemporary issues and recognition of the importance of sustaining this knowledge through life-long learning.

**HIGH SCHOOL PREPARATION**
The Department of Engineering recommends that high school preparation for the CME major include two years of algebra, one year of geometry, one-half year of trigonometry, one-half year of college algebra, as well as one year each of physics and chemistry. Without this background, it is unlikely that a student will be prepared to complete the degree requirements in four years. In addition, courses in industrial technology will be helpful.

**ADMISSION TO THE PROGRAM**
Admission to the CME major is selective and is determined by the Engineering Admissions Committee. Before students can be considered for admission to the CME major, they must:
• Complete 4 S.H. of English composition, 3 S.H. of speech communication, and a minimum of 38 S.H. of required lower-division engineering, physics, mathematics, and chemistry courses. These courses can be taken at WSU or transferred from other institutions. However, courses with grades below “C” will not be accepted in transfer.
• Must have obtained a grade of “C” or higher in the required courses and have a minimum GPA of 2.5 in the required courses. Students will not be allowed to enroll in upper-division 300-level engineering courses until either they are admitted into the major or they are granted special permission from their Department of Engineering major advisor.

**PROBATION POLICY**
CME majors will be placed on probation if their previous semester’s GPA in courses required for the major falls below 2.0 or if they do not complete at least one course in the major each semester. Students will be disqualified from the major if they have been on probation for two consecutive semesters or for three non-consecutive semesters after admission to the major. Petition for reinstatement will be considered by the Department of Engineering.

**UNIVERSITY STUDIES REQUIREMENTS**
The objectives of the University Studies component of the Bachelor of Science in Composite Material Engineering degree are consistent with the objectives of the WSU University Studies program. However, the University Studies credits required for CME majors have been adjusted because of the courses that students must complete as part of the CME major. Note: Students who receive a waiver from certain University Studies courses must take an equal number of credit hours of elective courses.

**UNIVERSITY STUDIES COMPONENT FOR CME MAJORS**

I. Basic Skills (11 S.H.)
- MATH 160 Calculus I (4)
- ENG 111 College Reading & Writing (4)
- CMST 191 Introduction to Public Speaking (3)

II. Arts and Sciences Core (20 S.H.)
- Humanities (6)
- Social Science (6)
- Natural Sciences (8):
  - CHEM 212 Principles of Chemistry I (4)
  - PHYS 221 University Physics I (4)

III. Unity and Diversity (9 S.H.)
- Critical Analysis: STAT 303 Introduction to Engineering Statistics (3)
- Science and Social Policy: A sequence of 3 engineering courses (3):
  - ENGR 102 Introduction to Engineering
  - ENGR 390 Composites Manufacturing
  - ENGR 480 Design Project II
- Global or Multicultural Perspectives (3)

IV. Flag Courses (13 S.H.)
- Oral Flag: A sequence of two engineering courses (3):
  - ENGR 475 Design Project I
  - ENGR 491 Engineering Seminar
- Math/Critical Analysis Flag: MATH 260 Multivariable Calculus (4)
- Writing Flag: A sequence of four engineering courses (6):
  - ENGR 285 Properties of Materials
  - ENGR 394 Polymer Science and Characterization
  - ENGR 451 Transport Phenomena Lab
  - ENGR 452 Mechanical Characterization Lab

† All courses in the sequence should be completed to receive full credit in the University Studies requirement.

**GRADING METHOD**
Except for foreign language courses, all WSU courses taken for credit toward the Bachelor of Science degree in Composite Materials Engineering must be taken for a letter grade. In foreign language courses, students may obtain a grade of “P” (pass) either by passing an exam or by successfully completing upper-level foreign language courses.

**B.S. MAJOR - COMPOSITE MATERIALS ENGINEERING (CME)**
106 S.H. (No Minor Required)

**CORE REQUIREMENTS (97 S.H.)**

**LOWER-DIVISION (56 S.H.)**

- MATH 160 Calculus I (4)
- MATH 165 Calculus II (4)
- MATH 260 Multivariable Calculus (4)
- MATH 270 Differential Equations & Linear Algebra (4)

**Chemistry (12 S.H.)**
- CHEM 212 Principles of Chemistry I (4)
- CHEM 213 Principles of Chemistry II (4)
- CHEM 340 Organic Chemistry Survey (4)

**Physics (8 S.H.)**
- PHYS 221 University Physics I (4)
- PHYS 222 University Physics II (4)

**Engineering (20 S.H.)**
- ENGR 102 Introduction to Engineering (2)
- ENGR 182 Engineering Graphics & Design (2)
- ENGR 210 Computer Applications in Engineering (3)
- ENGR 250 Statics (3)
- ENGR 260 Mechanics of Materials (3)
ENGR 270 Dynamics (3)
ENGR 285 Properties of Materials (4)

**UPPER-DIVISION (41 S.H.)**

**Mathematics (3 S.H.)**
STAT 303 Introduction to Engineering Statistics (3)

**Chemistry (3 S.H.)**
CHEM 410 Polymer Chemistry (3)

**Physics (3 S.H.)**
PHYS 302 Electrical Circuits & Systems (3)

**Engineering (32 S.H.)**
ENGR 300 Thermodynamics (3)
ENGR 350 Fluid Mechanics (3)
ENGR 360 Introduction to Composites Materials (3)
ENGR 370 Heat and Mass Transfer (3)
ENGR 390 Composites Manufacturing (3)
ENGR 394 Polymer Science and Characterization (3)
ENGR 401 Engineering Economics (1)
ENGR 450 Mechanics of Composites (3)
ENGR 451 Transport Phenomena Laboratory (1)
ENGR 452 Mechanical Characterization Laboratory (2)
ENGR 475 Design Project I (3)
ENGR 480 Design Project II (3)
ENGR 491 A/B Engineering Seminar (1)

**TECHNICAL ELECTIVES (9 S.H.)**

**Engineering Electives (6 S.H.)**
ENGR 410 Polymer Process (3)
ENGR 420 Manufacturing Systems Analysis (3)
ENGR 430 Rheology (3)
ENGR 460 Introduction to Finite Element Analysis (3)
ENGR 485 Advanced Microscopic Techniques (3)
ENGR 499 Independent Study (1-3)

**Non-Engineering Electives (3 S.H.)**
CHEM 411 Synthesis and Characterization of Polymers (3)
CHEM 412 Physical Chemistry I (3)
MATH 340 Advanced Linear Algebra (3)
MATH 420 Numerical Analysis (4)
STAT 321 Industrial Design of Experiments I (3)
PHYS 330 Electronics (4)
PHYS 420 Control Theory (3)

**GENERALIZED CLASS SCHEDULE**

**Freshman Year - Fall (17 S.H.)**
ENGR 102 Introduction to Engineering (2)
MATH 160 Calculus I (4)
CHEM 212 Principles of Chemistry I (4)
ENG 111 College Reading and Writing (4)
University Studies (3)

**Spring (17 S.H.)**
CHEM 213 Principles of Chemistry II (4)
ENGR 182 Engineering Graphics and Design (2)
MATH 165 Calculus II (4)
PHYS 221 University Physics I (4)
CMST 191 Introduction to Public Speaking (3)

**Sophomore Year - Fall (18 S.H.)**
ENGR 250 Statics (3)
CHEM 340 Organic Chemistry Survey (4)
MATH 260 Multivariable Calculus (4)
PHYS 222 University Physics II (4)

**Spring (17 S.H.)**
MATH 270 Differential Equations and Linear Algebra (4)
ENGR 260 Mechanics of Materials (3)
ENGR 270 Dynamics (3)
ENGR 285 Properties of Materials (4)
University Studies (3)

**Junior Year - Fall (15 S.H.)**
ENGR 300 Thermodynamics (3)
ENGR 350 Fluid Mechanics (3)
ENGR 360 Introduction to Composite Materials (3)
STAT 303 Introduction to Engineering Statistics (3)
CHEM 410 Polymer Chemistry (3)

**Spring (15 S.H.)**
ENGR 370 Heat and Mass Transfer (3)
ENGR 390 Composites Manufacturing (3)
ENGR 394 Polymer Science and Characterization (3)
PHYS 302 Electrical Circuits and System (3)
Technical Elective (3)

**Senior Year - Fall (15 S.H.)**
ENGR 401 Engineering Economics (1)
ENGR 450 Mechanics of Composites (3)
ENGR 452 Mechanical Characterization Laboratory (2)
ENGR 475 Design Project I (3)
ENGR 491A Engineering Seminar (0)
University Studies (3)

**Spring (14 S.H.)**
ENGR 451 Transport Phenomena Laboratory (1)
ENGR 480 Design Project II (3)
ENGR 491B Engineering Seminar (1)
Technical Elective (3)
Technical Elective (3)
University Studies (3)

**COURSE DESCRIPTIONS (ENGR)**

All engineering courses are to be taken for grade only. All courses are offered at least once a year except where indicated otherwise.

**102 - Introduction to Engineering (2 S.H.)**
Overview of engineering and various engineering disciplines with emphasis on composite materials engineering, introductory hands-on experience with composites, elementary concepts of engineering science, ethical aspects of engineering, safety and environmental issues regarding the use of chemicals, machine shop technology. Grade only.

**103 - Understanding Engineering (for non-majors) (2 S.H.)**
This course is for non-engineers who want to learn what it is like to be an engineer. The topics covered in this course include engineering design, ethics, intellectual property, personal and environmental safety, and principles of engineering. Grade only.

**182 - Engineering Graphics and Design (2 S.H.)**
A lecture-laboratory course. Engineering design process. Visualization and design communication. Engineering drawing standards and conventions. Computer-aided drafting and design (CADD) software are used throughout the course. Sectional views, auxiliary views, dimensioning, tolerancing, and reading of drawings. Grade only.

**210 - Computer Applications in Engineering (3 S.H.)**
A lecture-laboratory course. Formulate an overall solution algorithm and solve engineering and scientific problems utilizing spreadsheets, programming language(s), and mathematical software. Topics include engineering and scientific problems that employ statistics, algebra, calculus, linear algebra, optimization, and image processing in their solutions. Use of computers as a mean for technical communication is stressed. Prerequisite: MATH 160. Grade only.

**250 - Statics (3 S.H.)**
Force systems and equilibrium. Applications to simple trusses, frames and machines; distributed loads; properties of areas and masses; laws of friction. Designed to develop the ability to analyze and solve engineering problems. Prerequisites: MATH 160 and PHYS 221. Grade only.

**260 - Mechanics of Materials (3 S.H.)**
Concept of stress and strain, internal reactions (stresses and strains) to external load for axially loaded prismatic structural member; torsion members and beams; deformation and buckling of structural and machine elements. Statically determine and statically indeterminate problems. Prerequisites: ENGR 250 and MATH 165. Grade only.

**270 - Dynamics (3 S.H.)**
Kinematics: translation, rotational, plane motion and relative motion of particles and rigid bodies. Planar kinematics of rigid bodies. Kinetics of particles and rigid bodies by methods of force-mass-acceleration, work energy, impulse and momentum, introduction to vibrations. Prerequisites: ENGR 250, PHYS 222 and credit or concurrent registration in MATH 270. Grade only.

**285 - Properties of Materials (4 S.H.)**
A lecture-laboratory course. Introduction to structure-property relationships of engineering materials. Classification of materials, atomic structure and bonding, crystal structures, imperfection in solids, stress-strain behavior and hardness of metals, phase diagrams, structure and properties of ceramics, polymer structures, stress-strain behavior of polymers, and corrosion of materials. Laboratory: crystal structures; X-ray diffraction; determination of tensile, hardness, microhardness, microstructure, and corrosion properties of metallic materials. Technical writing is an integral part of the course. Prerequisites: ENG 111 and CHEM 213. Grade only.

**300 - Thermodynamics (3 S.H.)**
Basic concepts, First and Second Law of Thermodynamics, properties and phase changes of pure substances, ideal gases, energy analysis of closed and open systems, enthalpy, entropy, reversibility, and Carnot and gas power cycles. Prerequisite: PHYS 222. Grade only.
350 - Fluid Mechanics (3 S.H.)
Pressure and flow measurements, hydrostatic force, continuity and momentum equations, flow in conduits, velocity distribution, drag force, pump calculations, flow through porous media. Prerequisite: MATH 270. Grade only.

360 - Introduction to Composite Materials (3 S.H.)
Basic concepts and definitions of composite materials. Fabrication, structure, properties, and applications of fibrous materials. Structure and properties of polymer matrix, metal matrix, and ceramic matrix materials. Study of interface between fiber and matrix. Fabrication methods, properties and applications of polymer matrix composites, metal matrix composites, ceramic matrix composites, and carbon/carbon composites. Prerequisites: ENGR 285 and credit or concurrent registration in CHEM 340 or CHEM 410. Grade only.

370 - Heat and Mass Transfer (3 S.H.)
Conduction, convection, radiation, energy equation, design and analysis of heat exchanger, boiling and condensation heat transfer, Fick’s Law, molecular diffusion in solids, gases and liquids, and mass balance. Prerequisite: ENGR 350. Grade only.

390 - Composites Manufacturing (3 S.H.)
A lecture-laboratory course. General manufacturing issues including flow of a product through a manufacturing firm, environmental, health and safety issues, and learning curve. Fabrication processes for polymeric and non-polymeric composite materials. Prerequisite: ENGR 360. Grade only.

394 - Polymer Science and Characterization (3 S.H.)
A lecture-laboratory course. Investigate and determine thermal and physical properties of thermoplastics, thermosets, and their blends to get insight into their thermodynamic state and morphology. Correlate kinetics of cure to macroscopic behavior of thermosets. Theories discussed in the course include group contribution technique, polymer miscibility, and phase separation. Technical writing is an integral part of this course. Prerequisites: CHEM 340 and ENGR 285. Grade only.

401 - Engineering Economics (1 S.H.)
Fundamentals of engineering economics and its relationship to the engineering design process. Topics include interest and time value of money; annual, discrete, and continuous compounding; rate of return, payback period, and investment alternatives. Prerequisite: Credit or concurrent registration in ENGR 475. Grade only.

410 - Polymer Processing (3 S.H.)
Chemical and physical properties of polymers, additives, mixing and compounding, rheology of polymer melts, continuity, energy, and momentum equations, qualitative description and quantitative modeling of: extrusion, blow molding, thermoforming, injection molding, compression molding, and rotational molding processes. Recycling. Prerequisite: ENGR 350. Grade only. Offered a minimum of once every two years.

450 - Mechanics of Composites (3 S.H.)

451 - Transport Phenomena Laboratory (1 S.H.)
A lecture-laboratory course. Theories of pressure, flow, and temperature measurements. Experiments in momentum, heat and mass transfer. Prerequisites: ENGR 350, ENGR 370 and STAT 303. Grade only.

452 - Mechanical Characterization Laboratory (2 S.H.)
A lecture-laboratory course. Experimental characterization of composite materials, including density of fibers, fiber content, tension, compression, flexure, in-plane shear, interlaminar shear, fatigue and impact properties of composite materials. Effect of stress concentration in composites. Lamina thermoelastic and off-axis response, and nondestructive evaluations of composites. Prerequisites: STAT 303, ENGR 260 and ENGR 360. Grade only.

460 - Introduction to Finite Element Analysis (3 S.H.)
Theory and practice of the finite element method with emphasis on stress analysis in two dimensions by means of assumed displacement fields. Direct stiffness method, variational method, isoperimetric formulations, shell and composite elements formulations, algorithms for construction and solution of the governing equations, numerical errors and convergence, modeling and programming. Prerequisites: ENGR 260, MATH 270 and ENGR 210. Grade only. Offered a minimum of once every two years.

475/480 - Design Project I/II (3 S.H. each)
Develop product from requirements definition through prototype fabrication. Includes definition of product requirements, development of product and tooling design, analysis, definition of fabrication process, development of quality assurance plan, fabrication of prototype, inspection and testing. Work is performed in student teams. Prerequisite: ENGR 390. Grade only.

485 - Advanced Microscopic Techniques (3 S.H.)
A lecture-laboratory course. Theory and the use of scanning electron microscopes and transmission electron microscopes; theory of field ion microscopes, atomic force microscopes, and scanning tunneling microscopes. Comparisons are made to optical microscopy. Explores the relationships between chemistry, microscopic structure and properties of engineering materials. Qualitative and semi-quantitative X-ray microanalysis of metal matrix composites. Emphasis on technical writing of laboratory reports. Prerequisite: ENGR 360. Grade only. Offered a minimum of once every two years.

491 A/B Engineering Seminar (1 S.H.)
Varying topics seminar class. Students are required to give presentations on topics pertinent to engineering. Also includes guest speakers from the engineering profession. Students must take 491A in order to receive credit for 491B. Grade only.

499 - Independent Study (1-3 S.H.)
Designed for the undergraduate student who wishes to engage in research. Subject and credit to be arranged with instructor. Requires the approval of the Department of Engineering. Grade only.
ENGLISH
Minné Hall, Room 302 (507-457-5440)
www.winona.edu/english/
Ruth Forsythe (Chairperson)

FACULTY
James Armstrong, Associate Professor; B.A., Northwestern University; M.F.A., Western Michigan University; Ph.D., Boston University; 1999 –
Rob Brault, Associate Professor; B.A., Macalester College; Ph.D., University of Minnesota; 2000 –
Chris Buttram, Associate Professor; B.A., Emory University; M.A., M.Phil., Ph.D., Columbia University; 2000 –
Jane Carducci, Professor; B.A., Colorado College, Colorado Springs; M.A., Ph.D., University of Nevada-Reno; 1992 –
Debra Cambrell, Associate Professor; B.A., Carleton College; M.A., Ph.D., University of Nebraska-Lincoln; 2002 –
Gary Eddy, Professor; B.A., State University of New York-Brockport; M.A., University of Texas-El Paso; M.F.A., University of Arizona; Ph.D., State University of New York-Binghamton; 1988 –
Ruth Forsythe, Professor; B.A., St. Olaf College; M.A., Ph.D., University of Minnesota; 1977 –
Carol Gabbas, Associate Professor; B.S., Edgewood College (Wisconsin); M.A.T., St. Mary's College of Minnesota; 1986 –
William Hacker, Assistant Professor; B.A., Brown University; M.A., Ph.D., Cornell University; 2006 –
April Herndon, Assistant Professor; B.A., M.A., Radford University; Ph.D., Michigan State University; 2006 –
Goldie Johnson, Associate Professor; B.S., M.S., University of Wisconsin-Superior; 1988 –
J. Paul Johnson, Professor; B.S., Valley City State University; M.A., University of North Dakota; Ph.D., University of Minnesota; 1987 –
Ethan Kruse, Assistant Professor; B.A., M.A., Illinois State University; Ph.D., University of Tennessee; 2004 –
Ditlev Larsen, Assistant Professor; B.A., University of Aalborg; M.A., St. Cloud University; Ph.D., University of Minnesota; 2003 –
Gretchen Michtlitch, Assistant Professor; B.A., Gustavus Adolphus; M.A., Ph.D., University of Wisconsin-Madison; 2005 –
Elizabeth Oenos, Associate Professor; B.A., James Madison University; M.A., University of Maryland; Ph.D., University of Missouri-Columbia; 2001 –
Wayne Riplely, Assistant Professor; B.A., Michigan State University; M.A., University of Tennessee; Ph.D., University of Rochester; 2006 –
Hubby Shi, Professor; B.A., Indiana University of Pennsylvania; 1993 –
Myles Weber, Assistant Professor; B.A., Augsburg College; M.A., George Washington University; M.A., Syracuse University; Ph.D., University of Maryland-College Park; 2007 –

PURPOSE
The English Department is concerned with the English language as art and communication. At the lower academic levels, courses are designed to help students acquire competence in reading and writing, thinking critically, and understanding and responding to aesthetic values.
At the upper levels, the emphasis shifts increasingly to British and American literature and to more sophisticated forms of writing and linguistic studies. Students majoring in English should complete the lower-division requirements in English before registering for the upper-division courses.

TEACHING MAJORS
• CALT (Communication Arts and Literature) Majors: Except in unusual circumstances, the English Department recommends for student teaching only those students who have a minimum 2.75 GPA and who have earned at least a “B” in each of the following courses: ENG 290 and ENG 402.
• ESLT (TESOL) Majors: Except in unusual circumstances, the English Department recommends for student teaching only those students who have a minimum 2.75 GPA and who have earned at least a “B” in each of the following courses: ENG 328 and ENG 481. Additionally, this major requires a minimum of two years of second/foreign language instruction in a high school setting or one year in a college setting equivalent.

PREREQUISITES
• ENG 111 is a prerequisite for the ESLT, ENGA, ENGE, and EAPW major and minor programs.
• ENG 111 and ENG 290 are prerequisites for all other major and minor programs in English. Prerequisites for individual courses are identified in the course descriptions.

PASS/NO CREDIT (P/NC) COURSES
Except for some internships, no courses in the department are open to declared English majors or minors on a P/NC basis. Students not majoring or minoring in English can take any course in the department on a P/NC basis (provided they have met the prerequisites) unless the course is designated as a grade-only course.

UNIVERSITY STUDIES FLAG REQUIREMENTS
Students may use flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student’s major or minor program. The English Department offers the following flag courses in the University Studies Program:

Oral
ENG 402 Teaching Secondary English (3)
ENG 470 Seminar in American Literature (3)
ENG 471 Seminar in British Literature (3)
ENG 481 TESOL Theory and Methods (3)
Math/Critical Analysis
ENG 290 Literary Studies (3)
ENG 483 Pedagogical Grammar (3)

Writing
ENG 414 Shakespeare: Comedies and Histories (3)
ENG 417 Shakespeare: Tragedies (3)
ENG 439 Technical Writing (3)
ENG 447 Modern Literary Criticism (3)
ENG 480 Theories of Second Language Acquisition (3)

Flag courses that can be used to satisfy English major/minor requirements are identified in the lists of required courses and electives in this section.

B.A. MAJOR - ENGLISH: LITERATURE AND LANGUAGE (ENGL)
49 S.H. (No Minor Required)

REQUIRED COURSES (36 S.H.)
[ ] 290 Literary Studies (5)
Choose one of the following two courses:
223 Classical Mythology (3) OR
224 Bible as Literature (3)
301 British Literature to 1660 (3)
302 Enlightenment, Revolution, and Enslavement (3)

303 British and American Romanticism (3)
304 Victorian and post-Civil War Literature (3)
305 Modernism and Beyond (3)
405 Chaucer (3)

Choose one of the following two courses:
328 English Syntax (3) OR
350 Introduction to Language Study (3)

Choose one of the following two courses:
414 Shakespeare: Comedies and Histories (3) OR
417 Shakespeare: Tragedies (3)

447 Modern Literary Criticism (3)
490 Portfolio (1)
ELECTIVES (13 S.H.)
Electives must be English courses at the 200-level or above, including at least 6 S.H. in English courses numbered 400 or above.

B.A. MAJOR - ENGLISH: WRITING OPTION (ENGW)
49 S.H. (No Minor Required)

REQUIRED COURSES (36 S.H.)
290 Literary Studies (5)
211 Writing in Communities (3)
309 Nonfiction Prose Writing (3) OR
310 Story Writing (3) OR
312 Poetry Writing (3)
305 Modernism and Beyond (3)
328 English Syntax (3)
349 Technical Writing (3)
Choose one of the following three courses:
404 Advanced Creative Writing: Nonfiction (3) OR
410 Advanced Creative Writing: Prose (3) OR
412 Advanced Creative Writing: Poetry (3)
Choose one of the following two courses:
414 Shakespeare: Comedies and Histories (3) OR
417 Shakespeare: Tragedies (3)
447 Modern Literary Criticism (3)
490 Portfolio (1)

ELECTIVES (13 S.H.)
Electives must be English courses at the 200-level or above, including at least 9 S.H. in English courses numbered 300 or above.

B.A. MAJOR - ENGLISH: APPLIED LINGUISTICS (ENGA)
40 S.H. (Minor Required)

REQUIRED COURSES (21 S.H.)
250 Grammar and Usage (2)
328 English Syntax (3)
350 Introduction to Language Study (3)
480 Theories of Second Language Acquisition (3)
481 TESOL Theories and Methods (3)
483 Pedagogical Grammar (3)
484 ESL Materials, Resources, and Assessment (3)
490 Portfolio (1)

ELECTIVES (19 S.H.)
Electives must be chosen from the following English courses:
210 Advanced Expository Writing (3)
211 Writing in Communities (3)
221 Topics in World Literature (3)
227 Topics in Language (1-3)
324 Projects in Writing and Language (1-3)
399 Internship (1-12)
439 Technical Writing (3)
461 Independent Studies (1-3)
472 Seminar in Language and Discourse (3)
482 Second Language Composition Studies (3)
Other departmental or extradepartmental electives may be allowed with approval of the department chairperson.

B.A. MAJOR - ENGLISH: FIRST COMBINING MAJOR - LITERATURE AND LANGUAGE (ENGF)
37 S.H.
This major can be taken only in combination with another full major, and students failing to complete a second major must take one of the full (non-combining) majors listed in the catalog if they wish to major in English.

REQUIRED COURSES (27 S.H.)
290 Literary Studies (5)
Choose one of the following two courses:
223 Classical Mythology (3) OR
310 Bible as Literature (3)
Choose three of the following five courses:
301 British Literature to 1600 (3)
302 Enlightenment, Revolution and Enslavement (3)
303 British and American Romanticism (3)
304 Victorian and post-Civil War Literature (3)
305 Modernism and Beyond (3)
Choose one of the following two courses:
328 English Syntax (3) OR
350 Introduction to Language Study (3)
Choose one of the following two courses:
414 Shakespeare: Comedies and Histories (3) OR
417 Shakespeare: Tragedies (3)
447 Modern Literary Criticism (3)
490 Portfolio (1)

ELECTIVES (10 S.H.)
Electives must be English courses at the 200-level or above, including at least 6 S.H. in courses numbered 400 or above.

B.A. MAJOR - ENGLISH: SECOND COMBINING MAJOR - WRITING OPTION (ENGS)
37 S.H.
This major can be taken only in combination with another full major, and students failing to complete a second major must take one of the full (non-combining) majors listed in the catalog if they wish to major in English.

REQUIRED COURSES (27 S.H.)
290 Literary Studies (5)
211 Writing in Communities (3)
Choose one of the following three courses:
309 Nonfiction Prose Writing (3) OR
310 Story Writing (3) OR
312 Poetry Writing (3)
305 Modernism and Beyond (3)
328 English Syntax (3)
Choose one of the following four courses:
439 Technical Writing (3) OR
404 Advanced Creative Writing: Nonfiction (3) OR
410 Advanced Creative Writing: Prose (3) OR
412 Advanced Creative Writing: Poetry (3)
Choose one of the following two courses:
414 Shakespeare: Comedies and Histories (3) OR
417 Shakespeare: Tragedies (3)
447 Modern Literary Criticism (3)
490 Portfolio (1)

ELECTIVES (10 S.H.)
Electives must be English courses at the 200-level or above, including at least 6 S.H. in courses numbered 400 or above.

B.S. MAJOR - COMMUNICATION ARTS AND LITERATURE (Teaching) (CALT)
61 S.H.

REQUIRED COURSES (61 S.H.)
English - ENG (40 S.H.)
290 Literary Studies (5)
Choose one of the following three courses:
220 Multicultural American Literatures (3) OR
223 Classical Mythology (3) OR
224 Bible as Literature (3)
Choose one of the following two courses:
211 Writing in Communities (3) OR
222 Introduction to Creative Writing (3)
Choose two of the following four courses:
302 Enlightenment, Revolution, and Enslavement (3)
303 British and American Romanticism (3)
304 Victorian and post-Civil War Literature (3)
305 Modernism and Beyond (3)
301 British Literature to 1600 (3)
328 English Syntax (3)
402 Teaching Middle School and Secondary English (4)
Choose one of the following two courses:
414 Shakespeare: Comedies and Histories (3) OR
417 Shakespeare: Tragedies (3)
350 Introduction to Language Study (3)
432 Comparative Literature (3)
447 Modern Literary Criticism (3)
490 Portfolio (1)

Communication Studies - CMST (15 S.H.)
Choose one of the following four courses:
287 Conflict and Communication (3) OR
289 Gender and Communication (3) OR
290 Disability Communication and Culture (3) OR
* * Additional Requirements" course as defined in Item 3, page 18
OTHER REQUIRED COURSES

- HERS 204 Personal and Community Health (3)
- * SPED 400 Education of Exceptional Children/Youth (3)

PROFESSIONAL EDUCATION SEQUENCE FOR 5-12 LICENSURE (32-36 S.H.)

Notes:
1. These courses require formal admission to the teacher education program. (See page 91, “Admission to the WSU Teacher Education Program.”)
2. The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

- * EDUC 304/305 Human Development and Learning: Secondary (4)
- EDUC 308 Human Relations and Student Diversity (3)
- EDUC 311/312 Instructional Planning and Assessment (3)
- EDUC 429 Secondary Reading and Teaching Strategies (4)
- EDUC 449 Middle School Philosophy and Organization (3)
- EDUC 459 Professional Educator (3)
- EDST 465 Student Teaching (12-16)

Note: EDUC 304/305 and 311/312 must be taken the first semester after admission to the Education Program and must be taken in the same semester.

B.S. MAJOR - TEACHING ENGLISH AS A SECOND LANGUAGE K-12 (Teaching) (ESLT)

31 S.H.

REQUIRED COURSES (24 S.H.)

English – ENG

- 250 Grammar and Usage (2)
- 328 English Syntax (3)
- 350 Introduction to Language Study (3)
- 480/481 Theories of Second Language Acquisition (3)
- 481 TESOL Theories and Methods (3)
- 483 Pedagogical Grammar (3)
- 484 ESL Materials, Resources, and Assessment (3)
- 490 Portfolio (1)

Education – EDUC

- 330 Literacy for Second Language Learners

ELECTIVES – ENG (7 S.H.)

- 227 Topics in Language (1-3)
- 324 Projects in Writing and Language (1-3)
- 399 Internship (1-12)
- 461 Independent Studies (1-3)
- 472 Seminar in Language and Discourse (3)
- 482 Second Language Composition Studies (3)
- 210 Advanced Expository Writing (3)
- 211 Writing in Communities (3)
- 439 Technical Writing (3)

Extradenartmental electives may be allowed with the approval of the department chairperson.

OTHER REQUIRED COURSES FOR LICENSURE

HERS 204 Personal and Community Health (3)
- * SPED 400 Education of Exceptional Children/Youth (3)

PROFESSIONAL EDUCATION SEQUENCE FOR K-12 (32-36 S.H.)

Notes:
1. These courses require formal admission to the teacher education program. (See page 91, "Admission to the WSU Teacher Education Program.")
2. The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

- * EDUC 304/305 Human Development and Learning (4)
- EDUC 308 Human Relations and Student Diversity (3)
- EDUC 311/312 Instructional Planning and Assessment (3)
- EDUC 429 Secondary Reading and Teaching Strategies (4)
- EDUC 449 Middle School Philosophy and Organization (3)
- EDUC 459 Professional Educator (3)
- EDST 465 Student Teaching (12-16)

Note: EDUC 304/305 and 311/312 must be taken the first semester after admission to the Education Program and must be taken in the same semester.

Foreign Language: This major requires a minimum of two years of second/foreign language instruction in a high school setting or one year in a college setting or equivalent.

B.A. MINOR - ENGLISH: LITERATURE AND LANGUAGE (ENGL)

24 S.H.

REQUIRED COURSES (17 S.H.)

- 290 Literary Studies (5)

Choose three of the following five courses:

- 301 British Literature to 1660 (3)
- 302 Enlightenment, Revolution, and Enslavement (3)
- 303 British and American Romanticism (3)
- 304 Victorian and post-Civil War Literature (3)
- 305 Modernism and Beyond (3)

Choose one of the following two courses:

- 414 Shakespeare: Comedies and Histories (3) OR
- 417 Shakespeare: Tragedies (3)

ELECTIVES (7 S.H.)

Electives must be chosen from any English course numbered 200 or above.

B.A. MINOR - ENGLISH: CREATIVE WRITING (ENGC)

27 S.H.

REQUIRED COURSES - ENG (20 S.H.)

- 290 Literary Studies (5)
- 305 Modernism and Beyond (3)
- 309 Nonfiction Prose Writing (3)
- 310 Story Writing (3)
- 312 Poetry Writing (3)

Choose one of the following three courses:

- 404 Advanced Creative Writing: Nonfiction (3) OR
- 410 Advanced Creative Writing: Fiction (3) OR
- 412 Advanced Creative Writing: Poetry (3)

ELECTIVES (7 S.H.)

Electives must be chosen from any English course numbered 200 or above.

B.A. MINOR - APPLIED AND PROFESSIONAL WRITING (EAPW)

24 S.H. This minor is designed for students completing a full major in a traditional content area in the sciences, humanities, arts, health, or education. The EAPW minor provides students with the theoretical knowledge and practical skills to write convincingly and successfully in a variety of workplaces and civic situations.
REQUIRED COURSES - ENG (17 S.H.)

211 Writing in Communities (3)
250 Grammar and Usage (2)
309 Nonfiction Prose Writing (3)
328 English Syntax (3)
399 Internship (1-12 S.H.); must be completed for at least 3 S.H.
439 Technical Writing (3)

ELECTIVES (7 S.H.)

ELECTIVES may be chosen from any English course numbered 200 or above. Extradedpartmental electives may be allowed at the discretion of the department chair.

B.A. MINOR – ENGLISH: TESOL (ENG)

REquired Courses – ENG (17 S.H.)

250 Grammar and Usage (2)
328 English Syntax (3)
350 Introduction to Language Study (3)
480 Theories of Second Language Acquisition (3)
Choose two of the following four courses:
481 TESOL Theories and Methods (3)
482 Second Language Composition Studies (3)
483 Pedagogical Grammar (3)
484 ESL Materials, Resources, and Assessment (3)

ELECTIVES – ENG (7 S.H.)

Choose electives from the following English courses:
227 Topics in Language (1-3)
324 Projects in Writing and Language (1-3)
399 Internship (1-12)
461 Independent Studies (1-3)
472 Seminar in Language and Discourse (3)
Any two of the following not chosen above:
481 TESOL Theories and Methods (3)
482 Second Language Composition Studies (3)
483 Pedagogical Grammar (3)
484 ESL Materials, Resources, and Assessment (3)

Additional Requirements  course as defined in Item 3, page 18

*Required Courses - eng

OVERVIEW

CoUrSe deSCriPtIonS

ENGLISH (ENG)

099 - Introduction to College Writing (3 S.H.)

Students undertake intensive writing practice with special focus on the fundamentals of sentence and paragraph structure. The course aims to prepare students for ENG 111, College Reading and Writing. Students who do not pass this course will not be permitted to take ENG 111. (Credit does not count toward graduation.) Grade only.

105 - ESL: Listening to Academic Speech (3 S.H.)

Intensive practice in understanding academic lectures. Attention is also paid to pronunciation and other oral language skills. Designed to help ESL learners function successfully in American university classrooms. Grade only.

106 - ESL: Academic Reading and Writing I (3 S.H.)

Intensive practice in academic English with special attention to reading comprehension, including vocabulary, grammar, and basic writing skills. Designed to prepare non-native speakers for more advanced English courses and help them become successful in other academic disciplines. Must be followed by ENG 107. Grade only.

107 - ESL: Academic Reading and Writing II (3 S.H.)

Further development of communicative skills in academic reading and writing for advanced non-native speakers. Focusing on organizational/rhetorical skills in writing and comprehension of culturally particular academic texts. Specific practice and preparation for ENG 111. Prerequisite: ENG 106 or placement through testing. Grade only.

111 - College Reading and Writing (4 S.H.)

This course aims to strengthen students’ reading and writing abilities in preparation for college-level writing. A means of learning and inquiry, the writing in this course is based on interpreting, analyzing, and critiquing texts as well as on conducting research, synthesizing sources, and using citation/documentation formats. Prerequisite: Qualifying ACT English sub-score, or minimum score on the English placement exam, or successful completion of ENG 099. Grade only.

112 - Research Writing (1 S.H.)

Course focuses on researching and composing a documented argumentative essay. For students transferring an appropriate 3 S.H. composition course in order to meet University Studies Basic Skills requirement usually fulfilled by ENG 111. Department Chairperson’s permission required. Grade only.

120 - Introduction to Literature (3 S.H.)

Intensive reading in selected major forms and themes of literature. Variable content: semester schedules announce each section’s content. Grade only.

121 - Writing in Communities (3 S.H.)

This course concerns the study and practice of writing as a means of participation in a diverse, democratic, and literate society. Students may work with community partners to design and complete writing projects. Prerequisite: ENG 111. Grade only.

220 - Multicultural American Literatures (3 S.H.)

Recognizing the rich array of cultures that have contributed to American history, life, and art, this course focuses on one such culture or on a cross-cultural topic and offers students a study of vital literary voices and their social contexts. Variable content: semester schedules announce each section’s subject. Grade only.

221 - Topics in World Literature (3 S.H.)

Furnishing students with an opportunity to read artful writing of cultures other than those of the United States and England, this course focuses on a selected theme, genre, period, language, nationality, or region. Variable content: semester schedules announce each section’s subject. Grade only.

222 - Introduction to Creative Writing (3 S.H.)

An introduction to writing poetry, fiction, and other creative genres (may include drama, screenwriting, or creative nonfiction). Covers basics of genre, style, and voice. Prerequisite: ENG 111. Grade only.

223 - Classical Mythology (3 S.H.)

This course covers the principal characters, narratives, and genres of Greek and Roman “mythologies.” Studying this ancient literature and its contexts, students acquire knowledge of the Classical tradition and its influences in literary history. Prerequisite: ENG 111. Grade only.

224 - The Bible as Literature (3 S.H.)

The literary structure and genres of the Hebrew and Christian scriptures with special attention to the cultures that created them and major translations. Prerequisite: ENG 111. Grade only.

225 - Topics in Literature (1-3 S.H.)

Intensive study of a selected topic in English and foreign literature in translation. Variable content: semester schedules announce each section’s subject and credit.

226 - Topics in Writing (1-3 S.H.)

This course enables inquiry into and practice with specialized kinds of writing such as journal writing, web writing, and review writing. Variable content: semester schedules announce each section’s subject and credit.

227 - Topics in Language (1-3 S.H.)

Study of a topic of current importance in linguistics such as language variation, world English, language and culture, language and gender, or any other area of language in society. Variable content: semester schedules announce each semester’s subject and credit.

240 - Young Adult Literature (3 S.H.)

A study of the genres included in the literatures of the young adult culture. Course content will continue to add recent literature for young adults. Students may prepare and teach actual lessons. ENG 240 is required by state licensure for some levels of teaching. Prerequisite: Instructor’s permission.

250 - English Grammar and Usage (2 S.H.)

This course introduces students to the basic concepts and elements of English grammar and usage. The primary purpose is to develop students’ abilities to understand grammar from a formal perspective. This course prepares students for ENG 328.

290 - Literary Studies (5 S.H.)

An introductory course in literary analysis, focusing on the major genres and introducing literary history, methods of interpretation, and research and documentation. Prerequisite: ENG 111. Grade only.

301 - British Literature to 1660 (3 S.H.)

A literary-history survey course of early English literature from the Old English period to the early 17th century. Prerequisite: ENG 290.

302 - Enlightenment, Revolution, and Enslavement (3 S.H.)

A literary-history survey of the “long eighteenth century” in a transatlantic context. This course covers the diverse body of English-language literature from the English Civil War through the French Revolution. Prerequisite: ENG 290.

303 - British and American Romanticism (3 S.H.)

A literary-history survey spanning the 18th century and early-to-mid-19th century in American and British literature. This course covers Romanticism,
transcendentalism, and the "American Renaissance." Prerequisite: ENG 290.

304 - Victorian and post-Civil War Literature (3 S.H.)
A literary-history survey of mid- to late-19th century literature in England and America, this course covers selected major writers, works, and genres. The course also surveys aesthetic concepts and historical contexts associated with British literature of the Victorian period and with American literature from the mid-1800s to the turn of the century. Prerequisite: ENG 290.

305 - Modernism and Beyond (3 S.H.)
A literary-history survey of Modernism in England, Ireland, and America. This course concentrates on selected writers and works of the early to middle 1900s and covers aesthetic concepts and historical contexts that frame studies of Modernist literature. The course may also address questions of Postmodernism and dynamics of late 20th century literature. Prerequisite: ENG 290.

309 - Nonfiction Prose Writing (3 S.H.)
Study and practice in the techniques and forms of nonfiction prose; reading and writing a variety of essay and nonfiction prose genres. Prerequisite: ENG 290.

310 - Story Writing (3 S.H.)
Study and practice in the techniques and forms of fiction writing. Prerequisite: ENG 290.

312 - Poetry Writing (3 S.H.)
Study and practice in the techniques and forms of poetry writing with emphasis on contemporary approaches. Prerequisite: ENG 290.

324 - Projects in Writing and Language (1-3 S.H.)
Special projects in writing, publishing, and/or language, including such work as tutoring writing, teaching English as a Second Language, editing literary publications, or other similar undertakings. Variable content: semester schedules announce each section's subject and credit. Prerequisite: ENG 111.

325 - Works of Literature (1-3 S.H.)
Concentrating on a major single work of literature or a small set of connected literary works, this course provides not only an intensive exploration of the work(s) in question, but also, as relevant, study of the author, composition, historical milieu, and critical reception of the piece, as well as apt theoretical approaches thereto. Variable content: semester schedules announce each section's subject and credit. Prerequisite: ENG 290.

326 - Writers of Literature (1-3 S.H.)
Concentrating on a major or a compelling minor literary figure, this course addresses the biography and selected writings by the writer whose historical period, genre-specific orientations, and cultural contexts are covered. Topics bearing on authorial intention, compositional process, and theoretical approaches may also be treated. Variable content: semester schedules announce each section's subject and credit. Prerequisite: ENG 290.

327 - Genres of Literature (1-3 S.H.)
Narrowing literary studies to the treatment of a specific mode, style, genre, or sub-genre, this course is intended to educate students in both the historical manifestations of that literary category and the historical, abstract definitions thereof. Accordingly, the course concerns issues of genre study and its complexities. Variable content: semester schedules announce each section's subject and credit. Prerequisite: ENG 290.

328 - English Syntax (3 S.H.)
This course introduces students to the structure of English as described by modern linguists. The course aims to develop students' abilities to analyze and describe English and to apply syntactic knowledge of English to stylistic analyses of texts. Prerequisite: ENG 111.

350 - Introduction to Language Study (3 S.H.)
This course provides an introduction to the study of language from a linguistic standpoint. Topics include phonetics, phonology, morphology, semantics, pragmatics, sociolinguistics, psycholinguistics, language acquisition, and language policy. This introduction to linguistics prepares students for further studies in the field. Prerequisite: ENG 111.

399 - Internship (1-12 S.H.)
Supervised, practical experience in a wide variety of fields. Must be arranged well in advance of the registration period. P/NC at the instructor's discretion.

402 - Teaching Middle School and Secondary English (4 S.H.)
A study of the goals and methods of the secondary English teacher and of the content and structure of the middle school and secondary English curriculum. Attention to young adult literature. This course should be taken in the last semester that it is offered prior to one's student teaching. Prerequisite: ENG 290.

404 - Advanced Creative Writing: Nonfiction (3 S.H.)
Advanced practice in writing and revising creative nonfiction, with an emphasis on the development of the student's individual style. Variable content depends on the discretion of the instructor. Examples of other topics may include nature writing, the spiritual memoir, and travel writing. Prerequisite: ENG 309.

405 - Chaucer (3 S.H.)
A study of Chaucer's major works (including The Canterbury Tales) read in Middle English. Prerequisite: ENG 290.

410 - Advanced Creative Writing: Fiction (3 S.H.)
Opportunity to produce a significant body of new fiction or creative nonfiction and to develop a literary aesthetic and philosophy. Application of various expressive, imitative, and experimental writing techniques. Prerequisite: ENG 310.

412 - Advanced Creative Writing: Poetry (3 S.H.)
Advanced study of selected poets and poetics; advanced practice in poetry writing. Prerequisite: ENG 312.

414 - Shakespeare: Comedies and Histories (3 S.H.)
Study of Shakespeare's major comedies and history plays. Prerequisite: ENG 290.

417 - Shakespeare: Tragedies (3 S.H.)
Study of Shakespeare's major tragedies. Prerequisite: ENG 290.

423 - Shakespeare in Performance (3 S.H.)
This intensive two-week course is based on careful reading and discussion of Shakespeare's plays and their performances; the choice of plays for the course will correspond to the offerings of the Great River Shakespeare Festival. This course entails extra fees. Prerequisite: ENG 290.

432 - Comparative Literature (3 S.H.)
Examination of texts within their cultural contexts and exploration of strategies for comparing texts from various cultural traditions. Prerequisite: ENG 290.

439 - Technical Writing (3 S.H.)
The theory and practice of creating technical documents with text and graphics such as proposals, reviews, reports, newsletters, descriptions, instructions, manuals, websites, and/or correspondence. Using available technology (hardware and software), students will develop these documents with attention to their purpose, presentation, orientation, cultural, legal, and ethical consequences. Prerequisite: ENG 111.

447 - Literary Criticism: Theory and Practice (3 S.H.)
Following students' introduction to literary-critical methodologies in ENG 290 and coinciding with students' exercise of those approaches in various upper-division classes, this course covers—through readings and in about 20th century literary theory and criticism—major figures, ideas, and movements from New Criticism to the present. In this reading- and writing-intensive course, students produce papers that, from defined critical perspectives, interpret literary works by applying theoretical paradigms. Prerequisite: ENG 290.

461 - Independent Studies (1-3 S.H.)
Independent studies determined by the needs of the individual student. Offered by previous arrangement only. A student may earn no more than 6 S.H. through independent studies. Prerequisite: ENG 290.

470 - Seminar in American Literature (3 S.H.)
This reading- and writing-intensive course offers advanced study of a period, genre, figure, or theme in American literature and includes seminar-style presentations by students. Variable content: semester schedules announce each section's subject. Prerequisite: ENG 290.

471 - Seminar in British Literature (3 S.H.)
This reading- and writing-intensive course offers advanced study of a period, genre, figure, or theme in British literature and includes seminar-style presentations by students. Variable content: semester schedules announce each section's subject. Prerequisite: ENG 290.

472 - Seminar in Language Study and Discourse (3 S.H.)
Advanced study of topics in language and linguistics. Topics may include history of the English language, sociolinguistics, psycholinguistics, language and social context, contrastive rhetoric, pragmatics, and language and culture. Variable content: semester schedules announce each section's subject. Prerequisite: ENG 111 and ENG 350 or instructor's permission.

480 - Theories of Second Language Acquisition (3 S.H.)
This course introduces students to core issues in second language acquisition and research. Students work to understand what is occurring linguistically, cognitively, and socially as humans learn languages beyond their native language. The course focuses on both theoretical and pragmatic interactions among learner, language, and context. Prerequisites: ENG 111 and ENG 350 or instructor's permission.

481 - TESOL Theory and Methods (3 S.H.)
The course examines theories, methods and techniques of teaching English to speakers of other languages (TESOL), including psychological and pedagogical factors affecting learning and teaching and the influence of these factors on current teaching methods. Prerequisites: ENG 111 and ENG 350 or instructor's permission.

482 - Second Language Composition Studies (3 S.H.)
The course is a survey of theories of second language writing, including analysis of theoretical perspectives and pedagogical materials. This may also include application of TESOL theory and methods to the teaching
of composition. Prerequisites: ENG 111 and ENG 350 or instructor’s permission.

483 - Pedagogical Grammar (3 S.H.)
In this course, students examine the structural features of English as they apply to the teaching and learning of English as a second or foreign language. The primary focus is on explaining grammatical concepts within pedagogical contexts. Prior experience in the formal study of English grammar is necessary background for this course. Prerequisites: ENG 111 and ENG 328 or instructor’s permission.

484 - ESL Materials, Resources, and Assessment (3 S.H.)
The major focus of this course is the examination of theories and principles guiding successful ESL material development and language test creation. Students typically practice developing their own course materials, evaluate their suitability in a sample lesson, and prepare tests for a variety of student levels. Prerequisites: ENG 111 and ENG 350 or instructor’s permission.

ENVIRONMENTAL SCIENCE

ENVIRONMENTAL SCIENCE STEERING COMMITTEE
Biology: Michael Delong, Neal Mundahl
Pasteur Hall, Room 215 (507-457-5165)
Chemistry: Mark Engen, Jeanne Franz
Pasteur Hall, Room 312 (507-457-5290)
Geoscience: Jennifer L. B. Anderson, Toby Dogwiler
Pasteur Hall, Room 120 (507-457-5260)

PURPOSE
The Environmental Science Program is an interdisciplinary program sponsored by the Biology, Chemistry, and Geoscience Departments. This broadly based program is composed of a common set of introductory courses; an in-depth set of option courses in the biology, chemistry, or geoscience areas; and a capstone experience, which involves an individual research problem and a seminar-style course. Depending on the set of in-depth option courses chosen for their program, students graduate with one of the following options:
- B.S. Biology - Environmental Science Option
- B.S. Chemistry - Environmental Science Option
- B.S. Geoscience - Environmental Science Option

Graduates of this program are broadly educated and prepared for graduate school or entry-level positions in a variety of environmental science fields. The Environmental Science Program is designed to provide students with a basic understanding of the environmental challenges that face modern society and to provide students with the skills necessary to address these challenges through a successful career in an environmental science field. The common set of introductory courses fosters independent thought and honing problem-solving skills while integrating the common set of environmental science and the option area studies with a real-life environmental problem. Field work is an integral part of the environmental science curriculum and the capstone research project in particular. Students participate in ongoing research projects, including nearby field stations and localities, often in cooperation with governmental agencies, private landowners, or environmental advocacy groups. The capstone seminar course sharpens communication skills and encourages interactions between students from different majors and faculty from different environmental science areas by providing a forum for discussing, analyzing, and debating environmental issues and topics related to any branch of environmental science.

Students are encouraged to maintain a broad perspective and to augment their in-depth study with an understanding of the connections among public policy, economics, law, and the adjustment to social needs, which can result in the destruction or the preservation of the environment.

ENVIRONMENTAL SCIENCE CORE REQUIREMENTS - ALL OPTIONS
48-50 S.H.
(These courses are listed again under each department option.)

* CHEM 212 Principles of Chemistry I (4)
* CHEM 213 Principles of Chemistry II (4)
CHEM 320 Environmental Chemistry (4)
* BIOL 241 Basics of Life (4)
* BIOL 242 Organismal Diversity (4)
BIOL 312 General Ecology (3)
BIOL 313 General Ecology Laboratory (1)
* GEOS 120 Dynamic Earth (4)
* GEOS 130 Earth and Life Through Time (4)
GEOS 240 Watershed Science (4)

The following two courses (6 S.H.)
ECON 315 Environmental and Natural Resource Economics (3)
POLS 340 Environmental Policy (3)

One of the following courses not within the major discipline of the elected option:

● BIOL 315 Environmental Biology (3)

490 - Portfolio (1 S.H.)
Students compile portfolio materials including a vita, a critical introduction, and selected papers and projects from their former coursework. Required of all English majors as a capstone project in the senior year. Grade only.

HUMANITIES (HUM)
140 - Approaches to Film (3 S.H.)
A general introduction to the art of the film, the course addresses elements of narrative, composition, design, cinematography, acting, directing, editing, and sound as well as theory and criticism. Grade only.

* "Additional Requirements” course as defined in Item 3, page 18
## B.S. MAJOR BIOLOGY - ENVIRONMENTAL SCIENCE OPTION (BIES)

94-95 S.H. (No Minor required)

### BIOLOGY CORE COURSES - BIOL (18 S.H.)
- 241 Basics of Life (4)
- 242 Organismal Diversity (4)
- 308 Cell Biology (3)
- 310 Genetics (3)
- 312 General Ecology (3)
- 313 General Ecology Lab (1)

### REQUIREMENTS - BIOL (12 S.H.)
- 318 Invertebrate Zoology (4) OR
- 319 Vertebrate Biology (4)
- 335 Plant Ecology (4) OR BIOL 350 Plant Taxonomy (4)
- 315 Environmental Biology (3)
- 495 Seminar – Environmental Science (1)

### ELECTIVES - BIOL (7 S.H.)
- 318 Invertebrate Zoology (4)
- 319 Vertebrate Biology (4)
- 320 Ornithology (4)
- 335 Plant Ecology (4)
- 350 Plant Taxonomy (4)
- 360 Entomology (4)
- 380 Evolution (3)
- 405 Fishery Biology (3)
- 409 Microbiology (4)
- 415 Ecology of Large Rivers (4)
- 420 Limnology (4)
- 423 Ecosystem Ecology (3)
- 424 Biogeochemistry (3)
- 425 Animal Behavior (3)

### BIOLOGY CAPSTONE REQUIREMENT (3 S.H.)
- 499 Capstone Project (1-3)

### OTHER REQUIRED COURSES (54-55 S.H.)

#### Chemistry (16 S.H.)
- CHEM*212, *213 Principles of Chemistry I, II (8)
- CHEM 320 Environmental Chemistry (4)
- CHEM 340 Organic Chemistry Survey (4)

#### Geoscience (12 S.H.)
- GEOS 120 Dynamic Earth (4)
- GEOS 130 Earth and Life through Time (4)
- GEOS 240 Watershed Science (4)

#### Mathematics (9 S.H.)
- MATH 150 Modeling Using Precalculus and Statistics (3)
- MATH 155 Calculus Based Modeling (3)
- MATH 305 Biometry (3)

Note: Calculus I, II (MATH 160, 165) may be submitted for MATH 150, 155.

#### Physics (8 S.H.)
- PHYS *221, *222 University Physics I, II (8)

Note: University Physics I, II (*221, *222) may be submitted for General Physics I, II (201, 202).

The following two courses (6 S.H.):
- ECON 315 Environmental and Natural Resource Economics (3)
- POLS 340 Environmental Policy (3)

One of the following five courses (3-4 S.H.):
- CHEM 425 Analytical Chemistry I (4)
- CHEM 436 Topics in Environmental Chemistry (3)
- GEOS 325 Environmental Geoscience (3)
- GEOS 415 Advanced Geomorphology (4)
- GEOS 420 Applied Hydrogeology (4)
- GEOS 425 Global Climate Change (3)

### B.S. MAJOR CHEMISTRY - ENVIRONMENTAL SCIENCE OPTION (CHES)

92-93 S.H.

#### CHEMISTRY CORE COURSES - CHEM (29 S.H.)
- 212 Principles of Chemistry I (4)
- 213 Principles of Chemistry II (4)
- 350 Principles of Organic Chemistry I (4)
- 351 Principles of Organic Chemistry II (5)

### REQUIREMENTS - CHEM (10 S.H.)
- 420 Limnology (4)
- 415 Physical Chemistry Lab II (2)
- 427 Topics in Instrumental Chemistry (2)
- 428 Chemical Separations (3)
- 450 Advanced Organic Chemistry (2)
- 470 Isotope, Nuclear and Radiochemistry (2)
- 475 Seminar in Chemistry (1) OR other advanced chemistry electives as approved by the Chemistry Department

### ELECTIVES - CHEM (4 S.H.)

#### Geoscience (12 S.H.)
- GEOS 120 Dynamic Earth (4)
- GEOS 130 Earth and Life through Time (4)
- GEOS 240 Watershed Science (4)

#### Mathematics (8 S.H.)
- MATH 160, 165 Calculus I, II (8)

### OTHER REQUIRED COURSES (49-50 S.H.)

#### Biology (12 S.H.)
- * BIOL 241 Basics of Life (4)
- * BIOL 242 Organismal Diversity (4)
- BIOL 312, 313 General Ecology lecture and lab (4)

#### Geoscience (12 S.H.)
- GEOS 120 Dynamic Earth (4)
- GEOS 130 Earth and Life through Time (4)
- GEOS 240 Watershed Science (4)

#### Physics (8 S.H.)
- PHYS *221, *222 University Physics I, II (8)

### OTHER REQUIRED COURSES (54-55 S.H.)

#### Chemistry (16 S.H.)
- CHEM*212, *213 Principles of Chemistry I, II (8)
- CHEM 320 Environmental Chemistry (4)
- CHEM 340 Organic Chemistry Survey (4)

#### Geoscience (12 S.H.)
- GEOS 120 Dynamic Earth (4)
- GEOS 130 Earth and Life through Time (4)
- GEOS 240 Watershed Science (4)

#### Mathematics (9 S.H.)
- MATH 150 Modeling Using Precalculus and Statistics (3)
- MATH 155 Calculus Based Modeling (3)
- MATH 305 Biometry (3)

Note: Calculus I, II (MATH 160, 165) may be submitted for MATH 150, 155.

#### Physics (8 S.H.)
- PHYS *221, *222 University Physics I, II (8)

The following two courses (6 S.H.):
- ECON 315 Environmental and Natural Resource Economics (3)
- POLS 340 Environmental Policy (3)

One of the following five courses (3-4 S.H.):
- BIOL 315 Environmental Biology (3)
- BIOL 335 Plant Ecology (4)
- BIOL 360 Entomology (4)
- BIOL 420 Limnology (4)
- GEOS 415 Advanced Geomorphology (4)
- GEOS 325 Environmental Geoscience (3)
- GEOS 370 GIS and Imaging Techniques (3)
- GEOS 415 Ecology of Large Rivers (4)
- GEOS 420 Applied Hydrogeology (4)
- GEOS 425 Global Climate Change (3)

### B.S. MAJOR - GEOSCIENCE: ENVIRONMENTAL SCIENCE OPTION (GEES)

92 - 96 S.H. (No Minor Required)

#### GEOSCIENCExE CORE COURSES - GEOS (23 S.H.)
- GEOS 120 Dynamic Earth (4)
- GEOS 130 Earth and Life through Time (4)
- GEOS 240 Watershed Science (4)

#### REQUIREMENTS - GEOS (20-21 S.H.)
- 325 Environmental Geoscience (3)
- 370 GIS and Imaging Techniques (3)
- 400 Directed Research in Geoscience (2-3)
- 415 Advanced Geomorphology (4)
- 420 Applied Hydrogeology (4)
OTHER REQUIRED COURSES (43-44 S.H.)

Biology – BIOL (12 S.H.)
* 241 Basics of Life (4)
* 242 Organismal Diversity (4)
  312, 313 General Ecology, Ecology Lab (4)
Chemistry – CHEM (12 S.H.)
* 212, 213, Principles of Chemistry I, II (8)
  320 Environmental Chemistry (4)
Mathematics – MATH (6 S.H.)
  150 Modeling Using Precalculus and Statistics (3)
  155 Calculus Based Modeling (3) OR may substitute 120 and MATH 160 or MATH 160 and MATH 165
Physics – PHYS (4 S.H.)
One of the following three courses:
* 115 Conceptual Physics (4)
* 201 General Physics I (4)
* 221 University Physics I (4)
The following two courses (6 S.H.):
  ECON 315 Environmental and Natural Resource Economics (3)
  POLS 340 Environmental Policy (3)
One of the following courses (3-4 S.H.):
  BIOL 315 Environmental Biology (3)
  BIOL 335 Plant Ecology (4)
  BIOL 360 Entomology (4)
  CHEM 425 Analytical Chemistry I (4)
  CHEM 436 Topics in Environmental Chemistry (3)

ELECTIVES (6-8 S.H.)
(See note below).
Courses totaling 6-8 S.H. to be chosen from:

Geoscience – GEOS
  320 Optical Mineralogy and Petrology (4)
  385 Geology of North America (3)
  405 Current Topics in Geoscience (1-3)
  425 Global Climate Change (3)
  450 Travel Study in Costa Rica (3)
  470 Geologic Research Strategies (2)

Biology – BIOL
  415 Ecology of Large Rivers (4) OR
  420 Limnology (4)

Chemistry – CHEM
  340 Organic Chemistry Survey (4)
  350 Principles of Organic Chemistry I (4)

Statistics – STEXT
  210 Statistics (3)

Note: The courses selected as “Electives” must not duplicate the courses selected under “Other Required Courses” above. At least two courses must be used to fulfill the elective requirement.

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**FAA AIRWAY SCIENCE CERTIFICATION PROGRAM**

146-162 S.H. (FAA Airway Science Certification)
Pasteur Hall, Room 114A (507-457-5264)
George Bolon, Advisor

**PURPOSE**

The Federal Aviation Administration (FAA), along with the aviation industry, has recognized the need for a cadre of well-qualified men and women to support the national airspace system of the future. Therefore, the FAA initiated the Airway Science curriculum to prepare the next generation of aviation technicians, managers, and aircraft crew members. The FAA has approved WSU as an Airway Science University; WSU offers an Airway Science Program with two options: Computer Science Option and Management Option. When students in the Airway Science Program satisfy the respective major department degree requirements, they are granted either of the following degrees:

- B.S. in Computer Science with a Physics/Airway Science/Aviation minor
- B.S. in Business Administration with a Physics/Airway Science/Aviation minor

To fulfill the curriculum for FAA Airway Science Certification, students must complete additional requirements beyond the bachelor degree as outlined in this section.

**Airway Science Options**

The FAA Airway Science curriculum requirements are subject to change by the Federal Aviation Administration. Therefore, this catalog may not show the latest requirements. See the Airway Science faculty advisor for more information.

**COMPUTER SCIENCE OPTION**

Degree program: 128 S.H.; Certification: 141 S.H.

**UNIVERSITY STUDIES (USP) (46 S.H.)**

Basic Skills (12 S.H.)
Arts and Sciences (22 S.H.)
  Humanities (6 S.H. – two departments)
    HIST 122 Western Civilization 1815 to Present (3)
  Electives from USP-approved courses offered by another department other than History (3)
Natural Science (7 S.H.)
  GEOS 115 Meteorology (4)
  PHYS 200 Fundamentals of Aviation (3)
Social Science (6 S.H.)
  ECON 201 Principles of Microeconomics (3)
  PSY 210 Introduction to Psychological Science (3)
Fine and Performing Arts (3 S.H.)
  Unity and Diversity (12 S.H.)
    Critical Analysis (3 S.H.)
    Science and Social Policy (3 S.H.)
    Global or Multicultural Perspectives (3 S.H.)

Contemporary Citizenship or Democratic Institutions (3 S.H.)

Note: All students must fulfill 12 S.H. of flag requirements.

**REQUIRED COURSES (47 S.H.)**

Computer Science – CS (33 S.H.)
  234 Algorithms and Problem Solving (4)
  250 Algorithms and Data Structures (4)
  301 Discrete Structures for Computer Science (3)
  341 Advanced Data Structure (4)
  351 Introduction to Assembly and Architecture (3)
  371 Object Oriented Design and Development (3)
  405 Operating Systems (3)
  410 Software Engineering (3)
  415 Principles of Program Language (3)
  435 Theory of Computation (3)

Mathematics – MATH (12 S.H.)
  160 Calculus I (4)
  165 Calculus II (4)
  210 Foundations of Mathematics(4)

Physics – PHYS (2 S.H.)
  332 Computer Organization (2)
ELECTIVES (21 S.H.)

Computer Science – CS
- 385 Applied Database Management Systems (3)
- 411 Software Testing (3)
- 412 Networking/Telecommunications (3)
- 413 Advanced Networking (3)
- 420 Computer Architecture (3)
- 425 Numerical Analysis (4)
- 430 Computer Graphics (3)
- 440 Theory of Algorithms (3)
- 445 Artificial Intelligence (3)
- 450 Compilers (3)
- 465 Topics: Computing Theory (1-3)
- 466 Topics: General Computing Applications (3) OR
- 467 Topics: Computing Theory (1-3)
- 470 System Design with CASE Tools (3)
- 476 Distributed System: Concepts and Designs (3)
- 485 Database System Design (3)
- 491 Practicum in Computer Science (6)

Physics – PHYS (4)
- 333 Microprocessor Electronics (4)

REQUIRED AVIATION/PHYSICS – PHYS (9 S.H.)
- 205 Airspace, Communications and Regulations (1)
- 383 Air Traffic Control (3)
- 387 Flight Safety (3)
- 388 Legislative and Legal Aspects (2)

ADDITIONAL REQUIREMENTS FOR FAA AIRWAY SCIENCE CERTIFICATION
30 S.H.

Business Administration (3 S.H.)
- BUSA 220 Business Statistics (3)
- BUSA 301 Business Law I (3)
- MGMT 315 Principles of Management (3) OR
- MGMT 317 Management of Human Resources (3)
- MGMT 325 Organization of Dynamics (3)
- OM 334 Production and Operations Management (3)

Chemistry (4 S.H.)
- CHEM 212 Principles of Chemistry (4)

Geography (3 S.H.)
- GEOG 212 Physical Geography (3)

Physics (8 S.H.)
- PHYS 201 General Physics I (4)
- PHYS 202 General Physics II (4)

MANAGEMENT OPTION

UNIVERSITY STUDIES (USP) (53 S.H.)

Basic Skills (12 S.H.)
Selected courses must include MATH 140, Applied Calculus (3).

Arts and Sciences (29 S.H.)

Humanities (6 S.H. – two departments)
- HIST 122 Western Civilization 1815 to Present (3)
- Electives from USP-approved courses offered by another department other than History

Natural Science (8 S.H.)
- GEOS 115 Meteorology (4)
- PHYS 201 General Physics I (4)

Social Science (12 S.H.)
- ECON 201 Principles of Microeconomics (3)
- ECON 202 Principles of Macroeconomics (3)
- POLS 103 Introduction to Politics (3)
- PSY 210 Introduction to Psychological Science (3)

Unity and Diversity (12 S.H.)

Critical Analysis (3 S.H.)
- Science and Social Policy (3 S.H.)
- Global or Multicultural Perspectives (3 S.H.)
- Contemporary Citizenship or Democratic Institutions (3 S.H.)

Note: All students must fulfill 12 S.H. of flag requirements.

MANAGEMENT (60 S.H.)

Business Administration (36 S.H.)
- BUSA 220 Business Statistics (3)
- BUSA 301 Business Law I (3)
- BUSA 311 Business Law II (3)
- MGMT 315 Principles of Management (3) OR
- MGMT 317 Management of Human Resources (3)
- BUSA 320 Intermediate Business Statistics (3)
- OM 334 Production and Operations Management (3)
- BUSA 340 Management Science (3)
- MIS 362 Management Information Systems (3)
- OM 434 Quality and Productivity Management (3) OR
- MGMT 435 Managing for Quality (3) OR
- MGMT 495 Strategic Management (3)

Accounting (3 S.H.)
- ACCT 212 Managerial Accounting (3)

Finance (3 S.H.)
- FIN 360 Corporate Finance (3)

Marketing (3 S.H.)
- MKTG 315 Principles of Marketing (3)

BUSINESS ADMINISTRATION ELECTIVES (15 S.H.)
Select electives from either Option A or Option B below.

Option A:
- MIS course (3)
- Management course (3)
- International Business/Management (3) OR an international course from Accounting, Business Administration, Economics and Finance, or Marketing (3)
- Any course from the Department of Business Administration (3)
- Any course from the Departments of Business Administration, Accounting, Economics and Finance, or Marketing (3)

Option B:
- A minor or second major from the Departments of Accounting, Business Administration, Finance and Economics, or Marketing, which includes a minimum of 15 S.H. of non-duplicative courses.

Computer Science (3 S.H.)
- CS 110 Computers in a Global Society (3)

AVIATION (18 S.H.)

Physics – PHYS (18 S.H.)
- 200 Fundamentals of Aviation (3)
- 205 Airspace, Communications and Regulations (1)
- 381 Corporate Operations (2)
- 382 Airline Operations (2)
- 383 Air Traffic Control (3)
- 384 Airport Operations (2)
- 387 Flight Safety (3)
- 388 Legislative and Legal Aspects (2)

ADDITIONAL REQUIREMENTS FOR FAA AIRWAY SCIENCE CERTIFICATION
32 S.H.

Chemistry (4 S.H.)
- CHEM 212 General Inorganic Chemistry (4)

Communication Studies (9 S.H.)
- CMST 387 Interpersonal Communication (3)
- CMST 366 Organizational Communication (3)
- CMST 485 Senior Seminar in Communication Theory (3)

Geography (3 S.H.)
- GEOG 212 Physical Geography (3)

Mathematics (6 S.H.)
See advisor for specific recommendations.

Physics (4 S.H.)
- PHYS 202 General Physics II (4)

Psychology (3 S.H.)
- PSY 305 Theories of Personality (3)

Sociology (3 S.H.)
- SOC 150 Introduction to Sociology
FOREIGN LANGUAGES
Somsen Hall, Room 319 (507-457-5165)
www.winona.edu/foreignlanguages/

Lilian Ramos (Chairperson): German and Spanish
Timothy Frisk: French and Spanish
Juan Fernandez Iglesias: Spanish
Gonzalez: Spanish
Ronald M. Mazur: German, French, and Spanish
Rosine Tenenbaum: French and Spanish

FACULTY
Juan Fernandez Iglesias, Assistant Professor; B.A., Universidad de Santiago de Compostela; M.A., Ph.D., University of Kansas; 2004 –
Timothy Frisk, Associate Professor; B.S., Winona State University; B.A., M.A., Ph.D., University of Minnesota; 1990 – 2004 –
Ronald M. Mazur, Professor; B.A., University of Detroit; M.A., Ph.D., University of Michigan; 1978 –
Lilian Ramos, Associate Professor; B.A., Seattle University; M.A., University of Washington; Ph.D., University of Washington; 1992 –
Rosine Tenenbaum, Professor; B.A., M.A., University of Paris-Sorbonne; Ph.D., University of North Carolina; 1990 –

PURPOSE
Foreign language classes are designed to develop proficiency in the four skills areas: listening, reading, writing, and speaking. Their further goal is to develop an understanding and appreciation of individual foreign cultures. Students who enhance their occupational skills with linguistic and cultural training will increase their opportunities for employment in multinational corporations, government agencies, humanitarian organizations, and a variety of health professions. The following offerings are available:
• Complete B.A./B.S. major/minor in French
• Complete B.S. (teaching) major in French
• Complete B.A./B.S. major/minor in German
• Complete B.S. (teaching) major in German
• Complete B.A./B.S. major/minor in Spanish
• Complete B.S. (teaching) major in Spanish

The Foreign Language Department is authorized to recommend graduates for licensure in French, German, and Spanish majors. (Minnesota does not grant teaching licenses for foreign language minors.) All coursework for the degrees is available on campus. Language courses 101, 102, 201, 202 are offered on a yearly basis. Most other courses are offered every two years. For this reason, majors and minors in foreign languages are expected to register for the “specialized study” courses when they are offered.

Arranged classes are discouraged and will be offered only under the most exceptional circumstances and require approval of the entire Foreign Language Department faculty. Independent studies courses are not offered.

PROFESSIONAL EDUCATION SEQUENCE FOR SECONDARY MAJORS
(32-36 S.H.)

Notes:
1. These courses require formal admission to the teacher education program. (See page 91, “Admission to the WSU Teacher Education Program.”)
2. The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

* EDUC 305 Human Development and Learning (4)
* EDUC 308 Human Relations and Student Diversity (3)
* EDUC 312 Instructional Planning and Assessment: Secondary (3)
EDUC 429 Secondary Reading and Teaching Strategies (4)
* EDUC 449 Middle Level Philosophy, Organization and Planning (3)
* EDUC 459 The Professional Educator (3)
* EDST 465 Student Teaching (12-16)

PLACEMENT
All students with prior study of a foreign language are strongly encouraged to take a placement examination to determine the correct level of coursework at WSU. Students who are high school graduates from a French-, Spanish-, or German-speaking country cannot register or receive credit for French, German, or Spanish 101 or 102. These students can register for a 201 or 202 course only if they have declared a major or a minor in a foreign language. Students should consult with the department chairperson for details.

Note: Courses beyond the intermediate level are only offered every other year except for French 303 and Spanish 301. This means that students who have not completed intermediate courses during their sophomore year will have difficulty graduating in four years with a foreign language major unless they participate in a department- or university-approved study abroad program. Students of Spanish can participate in the Granada, Spain program. The foreign language faculty reserves the right to depart from these guidelines when warranted by exceptional circumstances.

CREDIT FOR PREVIOUS LANGUAGE STUDY
The department recommends that students who meet the prerequisites for French, German, or Spanish 101, 102, or 201 enroll in the next higher elementary or intermediate course. By earning a grade of “A” or “B” in WSU’s language courses 102, 201, or 202, students may obtain retroactive credit for course 101 and any sequel courses below the course in which they earned the “A” or “B.” Qualifying students may apply for retroactive credit by completing the appropriate form(s) and paying a fee of $5 per credit in order to receive a grade of “P” (pass) in the appropriate course(s). For information about credit by examination, see page 23. The foreign language faculty reserves the right to depart from these guidelines when warranted by exceptional circumstances.

STUDY ABROAD
WSU students who wish to immerse themselves in a foreign culture and language for one or more semesters have several options available to them. For specific information, please contact the Study Abroad Office or consult the Study Abroad section in this catalog (page 29). Students who wish to receive University credit for participation in a study abroad program must have prior approval from the Foreign Language Department. The foreign language majors and minors are strongly encouraged to study abroad in order to acquire language proficiency. Students have the opportunity to study Spanish with a WSU-sponsored program in Granada, Spain.

* “Additional Requirements” course as defined in Item 3, page 18
PASS/NO CREDIT (P/NC) COURSES
Elementary and intermediate language courses (101, 102, 201, and 202) may be taken for pass/no credit. Except for internships and practica, students must take all courses in their major, minor, options, concentrations, and licensures on a grade-only basis. In addition, a pass will be accepted for Intermediate 201 in French, German, or Spanish for those majors/minors who received an “A” or “B” in Intermediate 202 French, German, or Spanish. In this instance, students can qualify for retroactive credit for Intermediate 201 after completing the appropriate forms. The P/NC option is available to non-majors unless otherwise noted. Courses offered on a pass/no credit-only or grade-only basis are so designated in the course descriptions.

GPA REQUIREMENTS
1. A cumulative GPA of 2.00 to graduate with a foreign language major or minor.
2. A cumulative 2.50 GPA in the courses taken for the B.A. major or minor.
3. A cumulative 2.75 GPA in the courses taken for the B.S. teaching major.
4. A cumulative 2.75 GPA to be admitted to teacher education.

For a checklist of the University’s graduation requirements, see page 23.

Note: Specialized study courses are offered on a two-year cycle except for French 303 and Spanish 301. Therefore, students planning to major or minor in a foreign language should register for all specialized study courses offered in any given semester if they plan to graduate with a foreign language major or minor in four years.

UNIVERSITY STUDIES FLAG REQUIREMENTS
Students may use flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student’s major or minor program. The Department of Foreign Languages offers the following flag courses in the University Studies Program:

FLAGS

**FRENCH**
- **Oral**
  - FREN 401 Phonetics and Pronunciation (French) (3)
- **Math/Critical Analysis**
  - FREN 403 French Literature II (3)
- **Writing**
  - FREN 301 French Composition (4)
  - FREN 402 French Literature I (3)

**GERMAN**
- **Oral**
  - GERM 302 German Conversation and Composition (4)
- **Math/Critical Analysis**
  - GERM 403 20th Century Literature (German) (3)

B. A. MAJOR - FRENCH (FREN) 36 S.H.
(Minor Required in another discipline or in another language)

**LANGUAGE SKILLS FOR MAJORS AND MINORS (8 S.H.)**
- FREN 201 Intermediate French I (4)
- FREN 202 Intermediate French II (4)

**SPECIALIZED STUDY - FREN (28 S.H.)**
- 204 Special Topics in French Literature (2)
- 205 Special Topics in French Culture (2)
- 301 French Composition (4)
- 302 French Civilization and Culture (4)
- 303 Advanced Grammar and Stylistics (4)
- 401 Phonetics and Pronunciation (3)
- 402 French Literature I (3)
- 403 French Literature II (3)
- 404 French Literature III (3)

B. A. MAJOR - GERMAN (GERM) 32 S.H.
(Minor Required in another discipline or in another language)

**LANGUAGE SKILLS (8 S.H.)**
- GERM 201 Intermediate German I (4)
- GERM 202 Intermediate German II (4)

**SPECIALIZED STUDY - GERM (24 S.H.)**
- 204 Special Topics: German Culture and Language (2)
- 301 Advanced Grammar and Structural Analysis (3)
- 302 German Conversation and Composition (4)
- 303 German Culture and Civilization (4)
- 401 Medieval to Baroque Literature (3)
- 402 18th and 19th Century Literature (3)
- 403 20th Century Literature (3)
B.S. MAJOR - GERMAN (Teaching) (GRMT) 36 S.H. (Minor Required)

LANGUAGE SKILLS (8 S.H.)
GERM 201 and 202
Note: Teaching majors must take all courses in the Professional Education Sequence in addition to courses in the content area. Refer to these requirements in the Education Department section of this catalog (page 90), or refer to the WSU Teacher Education Student Handbook.

SPECIALIZED STUDY - GERM (28 S.H.)
GERM 204 Special Topics: German Literature (2)
GERM 205 Special Topics: German Culture and Language (2)
GERM 301 Advanced Reading and Structural Analysis (3)
GERM 302 German Conversation and Composition (4)
GERM 303 German Culture and Civilization (4)
GERM 401 Medieval to Baroque Literature (3)
GERM 402 18th and 19th Century Literature (3)
GERM 403 20th Century Literature (3)
FLAN 405 Methods of Teaching a Modern Foreign Language (4)

B.A. MINOR - GERMAN (GERM) 24 S.H.

LANGUAGE SKILLS (8 S.H.)
GERM 201 and 202

SPECIALIZED STUDY - GERM (16 S.H.)
204 Special Topics: German Literature (2) OR
205 Special Topics: German Culture and Language (2)
301 Advanced Reading and Structural Analysis (3)
GERM 302 German Conversation and Composition (4)
GERM 303 German Culture and Civilization (4)
GERM 401 Medieval to Baroque Literature (3)
GERM 402 18th and 19th Century Literature (3)
GERM 403 20th Century Literature (3)

B.A. MAJOR - SPANISH (SPAN) 32 S.H. (Minor Required in another discipline or in another language)

LANGUAGE SKILLS (8 S.H.)
SPAN 201 Intermediate Spanish I (4)
SPAN 202 Intermediate Spanish II (4)

SPECIALIZED STUDY - SPAN (24 S.H.)
204 Special Topics in Hispanic Literature and Culture (2)
300 Spanish Linguistics (2)
SPAN 301 Spanish Composition and Conversation (4)
SPAN 302 The Culture of Spain (3)
SPAN 303 The Culture of Latin America (3)
SPAN 401 Spanish Peninsular Literature I (3)
SPAN 402 Spanish Peninsular Literature II (3)
SPAN 403 Latin American Literature (4)

B.S. MAJOR - SPANISH (Teaching) (SPNT) 36 S.H. (Minor Required in another discipline or in another language)

LANGUAGE SKILLS (8 S.H.)
SPAN 201 and 202
Note: Teaching majors must take all courses in the Professional Education Sequence in addition to courses in the content area. Refer to these requirements in the Education Department section of this catalog (page 90), or refer to the WSU Teacher Education Student Handbook.

SPECIALIZED STUDY - SPAN (28 S.H.)
SPAN 204 Special Topics in Hispanic Literature and Culture (2)
SPAN 300 Spanish Linguistics and Phonetics (2)
SPAN 301 Spanish Composition and Conversation (4)
SPAN 302 The Culture of Spain (3)
SPAN 303 The Culture of Latin America (3)
SPAN 401 Spanish Peninsular Literature I (3)
SPAN 402 Spanish Peninsular Literature II (3)
SPAN 403 Latin American Literature (4)
FLAN 405 Methods of Teaching a Modern Foreign Language (4)

B.A. MINOR - SPANISH (SPAN) 24 S.H.

LANGUAGE SKILLS (8 S.H.)
SPAN 201 and 202

SPECIALIZED STUDY - SPAN (16 S.H.)
204 Special Topics in Hispanic Literature and Culture (2) OR
300 Spanish Linguistics and Phonetics (2)
SPAN 301 Spanish Composition and Conversation (4)
SPAN 302 The Culture of Spain (3) OR
SPAN 303 The Culture of Latin America (3)
SPAN 401 Spanish Peninsular Literature I (3) OR
SPAN 402 Spanish Peninsular Literature II (3)
SPAN 403 Latin American Literature (4)

COURSE DESCRIPTIONS

FOREIGN LANGUAGE (FLAN)
218 – The New Europeans: Understanding the EU (3 S.H.)
Through the use of stimulating readings, this course serves as an introduction to the issues shaping contemporary Europe. The main topic of the course will be to explore the evolution of the concept of Europe throughout different historical periods, learn about the different institutions that govern Europeans, highlight the important events in the unification of Europe, discuss the symbols that make Europe real for the average citizen, analyze the competing visions of where Europe is headed and what it should be, and explore the concept of the European dream and way of life by comparing it with its American counterpart. Offered yearly.

405 - Methods of Teaching a Modern Foreign Language (4 S.H.)
Discussion of foreign language teaching methods with respect to their effectiveness in achieving pedagogical goals. Practical applications are offered. Must be taken before the student teaching assignment. Prerequisite: FREN, GERM, or SPAN 202 or equivalent. Offered every two years.

ARABIC (ARAB)

101 - Arabic for Beginners (4 S.H.)
This course is an introduction to the Arabic language and its script. ARAB 101 is a combination of oral and written exercises. Prerequisites: None. Letter grade only. Offered according to demand.

102 – Introduction to Arabic Grammar and Literature (4 S.H.)
This is a continuation of ARAB 101. Students will learn to recognize patterns in the language and to differentiate between verbs, nouns and adjectives. Prerequisite: ARAB 101 or equivalent. Letter grade only. Offered according to demand.

FRENCH (FREN)

101 – Elementary French I (4 S.H.)
Introductory French for students with little or no prior French training. Instruction in speaking, listening, reading, and writing through classroom drills and language lab work. Prerequisite: None. Offered yearly.

102 – Elementary French II (4 S.H.)
Continuation of FREN 101. Prerequisites: FREN 101 or 1-2 years of high school French or equivalent. Offered yearly.

201 – Intermediate French I (4 S.H.)
Further development of communication skills. In-depth study of grammar. Selected readings in French. Prerequisite: FREN 102 or equivalent of three years of high school French. Offered yearly.

202 – Intermediate French II (4 S.H.)
Continuation of FREN 201. Further development of all the skills essential for communication. Further development of understanding written and spoken French. Practice in translation and practice in writing accentuated. Prerequisite: FREN 201 or equivalent of 4-5 years of high school French. Offered yearly.

204 – Special Topics in French Literature (2 S.H.)
Directed readings of French contemporary writers. Focusing particularly on African writers and French writers outside of France. Reading knowledge of French required. Offered every two years.

205 – Special Topics in French Culture (2 S.H.)
Study of contemporary issues in the French media, particularly cinema. Prerequisite: FREN 202 or equivalent. Offered every two years.

301 – French Composition (4 S.H.)
This course reinforces skills in written French through translation of a wide variety of texts taken from various fields such as business and literature. The writing of poems, essays, and articles in French is practiced in order to reinforce and refine writing skills. Prerequisite: FREN 202 or equivalent. Offered every two years.

*“Additional Requirements” course as defined in Item 3, page 18
302 - French Civilization and Culture (4 S.H.)
The unfolding of French culture and civilization from the Lascaux Caves to French rap music. Topics include architecture, plastic arts, literary movements, and contemporary French popular culture. The course is taught in French with texts in French. Students present reports on selected topics in French. Prerequisite: FREN 202 or equivalent. Offered every two years.

303 - Advanced Grammar and Stylistics (4 S.H.)
This course is an introduction to literary instruction as well as a practice of French advanced writing. It is a transition between FREN 202 (fourth-semester French) and French literature courses. Prerequisite: FREN 202 or equivalent. Letter grade only. Offered yearly.

401 - Phonetics and Pronunciation (3 S.H.)
Each student perfects his/her pronunciation through class and language laboratory exercises. The class relies on pronunciation tapes to teach the proper French accent. The sounds are studied so that one can describe and teach them to others. Some pronunciation rules are also mastered: rules of three consonants, silent “e”, “è” before “yod”, etc. Students read articles from the French press in order to practice correct pronunciation. Prerequisite: FREN 202 or equivalent. Offered every two years.

402 - French Literature I (3 S.H.)
Middle Ages, Renaissance French Literature. The course is taught in French. The French Explication De Texte type of critical analysis is taught. Readings include such authors as Rabelais, Gargantua, Montaigne, and The Pliade. Prerequisite: FREN 202 or equivalent. Offered every two years.

403 - French Literature II (3 S.H.)
Seventeenth and 18th century French literature. The course is taught in French. Writers such as Voltaire, Rousseau, and Beaumarchais are studied. Prerequisite: FREN 202 or equivalent. Offered every two years.

404 - French Literature III (3 S.H.)
Nineteenth and 20th century French literature. Romanticism, the Parnasse, Symbolism and Naturalism, as well as Surrealism, Existentialism, and contemporary writers are studied. Prerequisite: FREN 202 or equivalent. Offered every two years.

GERMAN (GERM)

101 - Elementary German I (4 S.H.)
Introductory German for students with little or no prior German training. Instruction in speaking, listening, reading, and writing through classroom drill and language lab work. Offered yearly.

102 - Elementary German II (4 S.H.)
Continuation of GERM 101. Prerequisite: GERM 101 or two years of high school German or equivalent. Offered yearly.

201 - Intermediate German I (4 S.H.)
Further development of communication skills. Study of grammar essential to skills. Selected readings in German. Prerequisite: GERM 102 or equivalent of three years of high school German. Offered yearly.

202 - Intermediate German II (4 S.H.)
Continuation of GERM 201. Further development of all the skills essential for communication. Further development of understanding written and spoken German. German pronunciation and practice in writing accentuated. Prerequisite: GERM 201 or equivalent of four years of high school German. Offered yearly.

204 - Special Topics: German Literature (2 S.H.)
The course focuses on an individual author, a literary period/movement, or a special literary category/genre. Prerequisite: GERM 202 or equivalent. Offered every two years.

205 - Special Topics: German Culture and Language (2 S.H.)
This course deals with such topics as modern cultural developments in the German-speaking world, modern usage and themes in the German-language media, the development of the German language into its modern form, or the application of the German language to a specific professional field. Prerequisite: GERM 202 or equivalent. Offered every two years.

301 - Advance Reading and Structural Analysis (3 S.H.)
Advanced study and analysis of the German language. The course includes a discussion of German grammar (written and oral exercises), the development of effective reading strategies and an introduction to basic linguistic concepts. Prerequisite: GERM 202 or equivalent. Offered every two years.

302 - German Conversation and Composition (4 S.H.)
The practice of advanced language skills through guided conversation and composition. Prerequisite: GERM 202 or equivalent. Offered every two years.

303 - German Civilization and Culture (4 S.H.)
The evolution of German culture from its beginnings to the present, including analysis of historical, literary, and artistic movements. Prerequisite: GERM 202 or equivalent. Offered every two years.

401 - Medieval to Baroque Literature (4 S.H.)
A survey of representative works by major authors in various genres from the beginnings of Old High German literature (8th century) to the literary Baroque (17th century). Class work focuses on the close reading and critical discussion of texts in their literary and cultural contexts. Prerequisite: GERM 202 or equivalent. Offered every two years.

402 - 18th and 19th Century Literature (3 S.H.)
A survey of representative works by major authors in various genres from the turn of the 20th century to the present. Class work focuses on the close reading and critical discussion of texts in their literary and cultural contexts. Prerequisite: GERM 202 or equivalent. Offered every two years.

403 - 20th Century Literature (3 S.H.)
A survey of representative works by major authors in various genres from the turn of the 20th century to the present. Class work focuses on the close reading and critical discussion of texts in their literary and cultural contexts. Prerequisite: GERM 202 or equivalent. Offered every two years.

SPANISH (SPAN)

101 - Elementary Spanish I (4 S.H.)
Introductory Spanish for students with little or no prior training in Spanish. Instruction in speaking, listening, reading and writing through classroom drill and language lab work. Offered yearly.

102 - Elementary Spanish II (4 S.H.)
Continuation of 101. Prerequisite: SPAN 101 or equivalent. Offered yearly.

201 - Intermediate Spanish I (4 S.H.)
Further development of communication skills. Study of grammar essential to skills. Selected readings in Spanish. Prerequisite: SPAN 202 or equivalent. Offered yearly.

202 - Intermediate Spanish II (4 S.H.)
Continuation of SPAN 201. Further development of skills essential for communication. Study of grammar and syntax. Additional practice in reading and writing. Prerequisite: SPAN 201 or equivalent. Offered yearly.

204 - Special Topics in Hispanic Literature and Culture (2 S.H.)
Directed readings in Hispanic literature and culture. Prerequisite: SPAN 202 or equivalent. Offered every two years.

300 - Spanish Linguistics and Phonetics (2 S.H.)
Practice in all the sounds of the language with observations on its development from Latin. Exploration of the grammatical structures of Spanish. Prerequisite: SPAN 202 or equivalent. Offered every two years.

301 - Spanish Composition and Conversation (4 S.H.)
The emphasis is on class discussion and the development of critical thinking. Readings to be included are short stories by modern and classical authors. Overview of semantics and stylistics. Prerequisite: SPAN 202 or equivalent. Offered yearly.

302 - The Culture of Spain (3 S.H.)
This course is taught in Spanish and focuses on the successive phases in the development of the culture of Spain. The development of Spanish art, architecture, music and lifestyle are studied as well as the different characteristics of the individual regions of Spain. Prerequisite: SPAN 202 or equivalent. Offered every two years.

303 - The Culture of Latin America (3 S.H.)
This course is taught in Spanish and focuses on the countries of Central and South America, a study of the pre-Columbian cultures as well as their development after the Spanish colonization: their art, their traditions and their present lifestyle and customs. Prerequisite: SPAN 202 or equivalent. Offered every two years.

401 - Spanish Peninsular Literature I (3 S.H.)
The course is taught in Spanish. Class work focuses on the study of early Peninsular Spanish literature: epic poetry, novel, theater, the renaissance, baroque literature. Prerequisite: SPAN 202 or equivalent. Offered every two years.

402 - Spanish Peninsular Literature II (3 S.H.)
The course is taught in Spanish. It covers Peninsular literature of the Age of Enlightenment, the Romantic period, the generation of 98, the generation of 27, the literature of the Civil War, and the post-Civil War as well as contemporary authors. Prerequisite: SPAN 202 or equivalent. Offered every two years.

403 - Latin American Literature (4 S.H.)
A survey of Latin American literature from pre-colonial to contemporary literature. This course includes the study of pre-Hispanic writings (Nahautl, maya, quechua), Los Cronistas, colonial literature, Neoclassicism, Romanticism, and the transition of the “gaucho epic” from the 19th to the 20th century. It also includes Modernism; the Criollismo; Post-Modernism; Magic Realism; and the Boom with writers such as Gabriel Garcia, Marquez, Carols Fuentes, Cortazar, and Vargas Llosa; the theater; and other essay writers. Prerequisite: SPAN 202 or equivalent. Offered every two years.
GEOGRAPHY
Minne Hall, Room 228 (507-457-5432)

FACULTY
Jerry Gerlach, Professor; B.A., M.A., University of Nebraska; Ph.D., University of Oklahoma; 1988 -

PURPOSE
The study of geography affords students the opportunity to examine the differences and similarities of the various physical and cultural environments in which we live. Drawing on concepts from both the physical and the social sciences, geographers work in such fields as education, urban and regional planning, government agencies, conservation, international business, tourism, cartography, and international relations.

GRADUATION REQUIREMENTS
- For a checklist of the University’s graduation requirements, see page 23. Specific requirements for geography minors are as follows:
  - A grade of “C” or better is required for any course used to complete the requirements of the minor.
  - Four courses (12 S.H.) must be taken at WSU.

B.A. MINOR - GEOGRAPHY (GEOG)
24 S.H.

REQUIRED COURSES - GEOG (12 S.H.)
211  Economic Geography (3)
212  Physical Geography (3)
213  Cultural Geography (3)
450  Cartography (3)

ELECTIVES (12 S.H.)
Six credits must be from courses 300-level or above. GEOG 110 does not apply to the minor.

COURSE DESCRIPTIONS (GEOG)

110 - World Regional Geography (3 S.H.)
A survey of physical and cultural aspects of world regions including landforms; climate; levels of economic development; cultural diffusion; attitudes toward the land, the social structure, and values. Grade only. Offered yearly.

211 - Economic Geography (3 S.H.)
A systematic study of the geographic bases of human economic activities in agriculture, mining, and manufacturing. This course explains—by theory and example—why, where, and how activities are distributed in our economic world. Grade only. Offered yearly.

212 - Physical Geography (3 S.H.)
An introduction to the significance and aerial distribution of various physical elements of our environment with emphasis on climate, landforms, gradational work of streams, and glaciation. Grade only. Offered yearly.

213 - Cultural Geography (3 S.H.)
An introduction to the significance and aerial distribution of various cultural elements of our environment with emphasis on population, cultural origins, language, religion, and agriculture. Grade only. Offered yearly.

223 - Geography of the Orient (3 S.H.)
A study of the physical and cultural features of the Far East. Grade only. Offered every other year.

224 - Geography of Africa (3 S.H.)
Natural setting, distribution of people, important occupations and problems of Africa's future development. Grade only. Offered every other year.

225 - Geography of Latin America (3 S.H.)
A study of the complex cultural, racial, political, demographic, and economic patterns which have developed in Latin American since 1492—within its physical geographic setting. Grade only. Offered yearly.

233 - Geography of the Middle East (3 S.H.)
Environmental setting, population distribution, important occupations, crossroads, functions, and problems of development. Grade only. Offered every other year.

270 - Introduction to the Geography of Tourism (3 S.H.)
An introduction to the study of the geography of tourism. This course studies the origin, development, and spread of tourism. Particular emphasis is placed on the location of tourist areas in the U.S. Grade only. Offered every other year.

320 - Geography of the United States (3 S.H.)
An examination of the various regions of the United States with emphasis on the ways in which physical geography, sources of economic activity, and cultural heritage combine to produce the unique character of each region. Grade only. Offered yearly.

326 - Geography of Europe (3 S.H.)
A study of nations, regions, and economies of Europe with special attention to current problem areas. Grade only. Offered every other year.

332 - Geography of Canada (3 S.H.)
A detailed examination of Canada's geography with special emphasis on developmental problems. Grade only. Offered every other year.

349 - Maps and Air Photos (3 S.H.)
A study of the elements of map scale and projection, and the use of air photos in map preparation. Practice in reading and interpreting various kinds and series of maps. Grade only. Offered every other year.

370 - The Geography of Tourism: Advanced Study (3 S.H.)
An in-depth study of tourist locations worldwide. The course emphasizes detailed examination and classification of tourist types and locations. Grade only. Offered every other year.

450 - Cartography (3 S.H.)
Theory and design of map-making skills using a variety of techniques in the production and reproduction of qualitative and quantitative maps. Grade only. Offered every other year.

455 - Remote Sensing (3 S.H.)
An examination of various remote sensing techniques including radar, infrared, high-altitude photography and LANDSAT earth satellite imagery, and their application to geographical inquiry in areas such as land use, agriculture, forest and range management, and urban studies. Prerequisite: instructor's permission. Grade only. Offered every other year.

490 - Independent Reading in Geography (1-3 S.H.)
A course designed to aid those planning to attend graduate school or who have a special area of interest which they desire to pursue beyond formal course limits. Work is undertaken with an instructor chosen by the student. Prerequisite: instructor's permission. Grade only. Offered by arrangement.
The department is also actively integrating Geographical Information Systems (GIS) technology into the curriculum. Students learn to solve real world problems by combining survey data collected in the field with data from Trimble™ GeoExplorer XT GPS mapping units and Nikon™ pulse-laser Total Stations with analysis in our GIS computing facility. Students use GPS/GIS to solve problems ranging from tectonic reconstructions of the North American plate to water resource management in local streams. In an employment market in which GIS experience has almost become a universal job requirement, WSU Geoscience students don’t just know GIS— they know how to use it.

When it is too cold to be in an actual stream, students investigate river processes in the Sediment Transport and River Studies (StaRS) Flume Laboratory. The StaRS Lab was funded through a competitive grant from the National Science Foundation. The flumes, one of which is six feet wide and over 16 feet long, allow large-scale modeling of rivers. Students, from the introductory through senior-level, complete hands-on assignments and directed research that include projects such as modeling the effects of the lock and dam system on the Upper Mississippi River. Additionally, the StaRS Lab includes advanced equipment for processing and studying sediments and soils, including a Spectrex™ Laser Particle Counter and a full range of drying ovens, sieves, and combustion furnaces.
**GRADUATE SCHOOL PREPARATION**

The Department of Geoscience has an excellent record of placement of graduates into master’s and doctoral programs, and most graduates have received financial support for graduate study. Students who are considering graduate studies must supplement their curriculum with a minimum of a full year of chemistry, physics, and Calculus. They should also take a summer field course in addition to their required degree program.

**ADvising**

All geoscience and earth science majors must have an advisor from the Department of Geoscience. Students must keep in mind when planning schedules that many upper-division courses are offered on an every-other-year basis. Therefore, students should meet with their advisor regularly to do long-range program planning and to ensure timely graduation. Geoscience minors are encouraged to meet with their academic advisor to review their progress in the program.

**Degree Options**

Geoscience Major

- **B.S. Major - Geology Option**: Prepares students for graduate study or employment in classic geologic sub-disciplines, including mineralogy and petrology, structural geology, stratigraphy, sedimentology, petroleum exploration, and economic geology.
- **B.S. Major - Environmental Science Option**: Prepares students for graduate study or employment in hydrogeology and environmental careers that focus on ground-water quality, ground-water quantity, contaminant problems, and related soil investigations.
- **B.A. Major - Geoscience**: Prepares students for careers or graduate study in fields that explicitly integrate geoscience with a second discipline. Students choose their second disciplinary field and work closely with faculty in both disciplines to prepare for post-graduate options.

Earth Science Teaching Major

The B.S. Major Earth Science (Teaching) is designed for students who desire a middle level to secondary school teaching career (grades 5-12); the program conforms to Minnesota Board of Teaching licensure standards. Students completing this program are eligible to apply for a Minnesota license in General Science for grades 5-8 or a license in earth and space science for grades 9-12.

Geoscience Minor

The B.S. Minor: Geoscience is a flexible program that enables the student to couple his or her interest in geoscience with a second discipline.

**Pass/No Credit (P/NC) Courses**

All courses in the Department of Geoscience must be taken on a grade-only basis.

**Departmental Requirements**

Geoscience majors and minors must achieve a grade of “C” or better in all geoscience courses numbered 240 and higher. For a checklist of the University’s graduation requirements, see page 23.

**Geoscience Honors Program**

The Department of Geoscience offers students the option to engage in independent research culminating in an honors thesis. Geoscience majors maintaining a minimum 3.0 GPA are eligible to participate in the program. Refer to the department website for complete eligibility requirements and expectations.

**University Studies Flag Requirements**

Students may use flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student’s major or minor program. The Department of Geoscience offers the following flag courses in the University Studies Program:

<table>
<thead>
<tr>
<th>Flag</th>
<th>Oral</th>
<th>GEOS 320 Optical Mineralogy and Petrology (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>GEOS 370 GIS and Imaging Techniques (3)</td>
</tr>
<tr>
<td>Math/Critical Analysis</td>
<td>[ ]</td>
<td>GEOS 415 Advanced Geomorphology (4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GEOS 420 Applied Hydrogeology (4)</td>
</tr>
</tbody>
</table>

**B.S. Major - Geoscience: Geology Option (GEGE)**

67-71 S.H. (No Minor Required)

**Core Requirements - Geos (23 S.H.)**

- 120 Dynamic Earth (4)
- 130 Earth and Life through Time (4)
- 220 Minerals and Rocks (4)
- 280 Field and Analytical Methods I (2)
- 330 Structural Geology (4)
- 340 Sedimentology and Stratigraphy (4)
- 475 Geoscience Seminar (1)

**Required Courses (35-36 S.H.)**

Geoscience - GEOS (12 S.H.)

- 240 Watershed Science (4)
- 320 Optical Mineralogy and Petrology (4)
- 415 Advanced Geomorphology (4) OR
- 420 Applied Hydrogeology (4)

Chemistry - CHEM (4 S.H.)

- 212 Principles of Chemistry I (4)

Physics/Chemistry (8 S.H.)

Choose one of the following two courses (4 S.H.):

- **PHYS 201** General Physics I (4) OR
- **PHYS 222** University Physics I (4) OR

Plus one of the following (4 S.H.):

- **PHYS 201** General Physics I (4) OR
- **PHYS 222** University Physics I (4) OR
- **CHEM 213** Principles of Chemistry II (4)

Mathematics – MATH (6-8 S.H.)

- 150 Modeling Using Precalculus and Statistics (3) AND
- Mathematics and Calculus Based Modeling (3) OR
- **CALC 155** Calculus I (4) AND 160 Calculus II (4)
- **CALC 155** Calculus I (4) AND 165 Calculus II (4) OR
- **CALC 155** Calculus I (4) AND 160 Calculus II (4) OR
- **CALC 155** Calculus I (4) AND 165 Calculus II (4)
- **CALC 160** Calculus I (4) AND 165 Calculus II (4)

Computer Skills (2-3 S.H.)

Choose one of the following two courses:

- **ENGR 182** Engineering Graphics and Design (2) OR
- **CS 130** Visual Basic (3)

* "Additional Requirements" course as defined in Item 3, page 18
English – ENG (3 S.H.)
Choose one of the following two courses:
439 Technical Writing (3) OR
449 Scientific Writing (3)

GEOSCIENCE ELECTIVES (9-12 S.H.)
Select from the “Electives Pool” list (page 122), except for geoscience courses listed as requirements for the major.

B.S. MAJOR - GEO SCIENCE:
ENVIRONMENTAL SCIENCE OPTION (GEES)
122-126 S.H. (No Minor Required; this total includes University Studies requirements)
Note: Alliance with environmental science options of other departments is given under “Environmental Science” on page 109.

UNIVERSITY STUDIES COURSES (30 S.H.)
BASIC SKILLS (9 S.H.)
ENG 111 College Reading and Writing (4)
CMST 191 Introduction to Public Speaking (3)
MATH (0 S.H.; included below with MATH 150, 155)
Courses selected from approved list of physical education activities
(2)

ARTS AND SCIENCES CORE (15 S.H.)
Humanities (6 S.H.)
Courses selected from approved list of humanities courses
Natural Science (0 S.H.)
(7 S.H. included below with CHEM 212, 213; PHYS 115; BIOL 241, 242)
Social Science (6 S.H.)
Courses selected from approved list of social science courses
Fine and Performing Arts (3 S.H.)
Courses selected from approved list of fine and performing arts courses

UNITY AND DIVERSITY (6 S.H.)
Critical Analysis (0 S.H.)
(3 S.H. included below with GEOS 240)
Science and Social Policy (0 S.H.)
(3 S.H. included below with GEOS 325)
Multicultural or Global Perspectives (3 S.H.)
Courses selected from approved list of Multicultural or Global Perspectives courses (3 S.H. may be included if GEOS 450 or GEOS 425 is taken as an elective for the major.)
Democratic Institutions or Contemporary Citizenship (3 S.H.)
Courses selected from approved list of Democratic Institutions or Contemporary Citizenship courses

Note: Many courses required in the program outlined below can be used to satisfy certain University Studies requirements.

GEOSCIENCE CORE COURSES - GEOS (23 S.H.)
120 Dynamic Earth (4)
130 Earth and Life through Time (4)
220 Minerals and Rocks (4)
280 Field and Analytical Methods I (2)
330 Structural Geology (4)
340 Sedimentology and Stratigraphy (4)
475 Geoscience Seminar (1)

Note: Majors in all options are urged to take a geology summer field course prior to graduation. This can substitute for an upper-division elective.

REQUIREMENTS – GEOS (20-21 S.H.)
240 Watershed Science (4)
325 Environmental Geoscience (3)
370 GIS and Imaging Techniques (3)
400 Directed Research in Geoscience (2-3)
415 Advanced Geomorphology (4)
420 Applied Hydrogeology (4)

OTHER REQUIRED COURSES (43-46 S.H.)

Biology – BIOL (12 S.H.)
* 241 Basics of Life (4)
* 242 Organismal Diversity (4)
312, 313 General Ecology, Ecology Lab (4)

Chemistry – CHEM (12 S.H.)
* 212, 213, Principles of Chemistry I, II (8)
320 Environmental Chemistry (4)

Mathematics – MATH (6-8 S.H.)
150 Modeling Using Precalculus and Statistics (3) AND MATH 155 Calculus Based Modeling (3) OR
120 Precalculus (4) AND MATH 160 Calculus I (4)

Physics – PHYS (4 S.H.)
* 115 Conceptual Physics (4) OR
* 201 General Physics I (4) OR 721 University Physics I (4)

The following two courses (6 S.H.)

ECON 315 Environmental and Natural Resource Economics (3)
POLS 340 Environmental Policy (3)

One of the following courses (3-4 S.H.)

Biology – BIOL
315 Environmental Biology (3)
335 Plant Ecology (4)
360 Entomology (4)
415 Ecology of Large Rivers (4)
(See below)
420 Limnology (4)
(See below)

Chemistry – CHEM
425 Analytical Chemistry I (4)
436 Topics in Environmental Chemistry (3)
†Note: If BIOL 415 or BIOL 420 is chosen as the elective from this group, that course must not be selected from the list of courses under “Electives” below.

ELECTIVES (6-8 S.H.)
Note: The courses selected as “Electives” must not duplicate the courses selected under “Other Required Courses” above. At least two courses must be used to fulfill the elective requirement.
Courses totaling 6-8 S.H. to be chosen from:

Geoscience – GEOS
320 Optical Mineralogy and Petrology (4)
385 Geology of North America (3)
405 Current Topics in Geoscience (1-3)
425 Global Climate Change (3)
450 Travel Study in Costa Rica (3)
470 Geologic Research Strategies (2)

Biology – BIOL
415 Ecology of Large Rivers (4) OR
420 Limnology (4)

Statistics – STAT
210 Statistics (3)

B.A. MAJOR - GEO SCIENCE
This program prepares students for graduate study or employment in geologic disciplines or in a variety of other disciplines, depending on the student’s chosen minor field. The goal is to prepare students for success in an increasingly interdisciplinary world. Students should speak with a Geoscience department advisor about their career goals so that this program can be tailored to best suit their goals.

Students choose a minor (or double major) field that they must relate to their work in geoscience by completing an internship or research project. Students must obtain approval from the Geoscience department before engaging in this work. The research project topic must integrate geoscience with the second discipline.

The flexibility of this program enables students to pursue careers in diverse areas such as geochemistry and geophysics or environmental law and environmental justice, to prepare them for graduate study, or to pursue a career in industry.

Professionals in many disciplines, including science, law, medicine, and politics, hold undergraduate B.A. degrees in Geoscience.

B.A. MAJOR - GEO SCIENCE OPTION (GSCE)
40-42 S.H. (Approved minor or second major required)

CORE REQUIREMENTS – GEOS (19 S.H.)
120 Dynamic Earth (4)
130 Earth and Life through Time (4)
220 Minerals and Rocks (4)
240 Watershed Science (4)
280 Field and Analytical Methods I (2)
475 Geoscience Seminar (1)

Note: Majors in all options are urged to complete a geology summer field course prior to graduation. This can substitute for an upper-division elective.

REQUIRED COURSES - GEOS (10-11 S.H.)
Choose one from each of the three pairs of courses listed below (See ** below):

330 Structural Geology (4) OR GEOS 340 Sedimentology & Stratigraphy (4)
415 Advanced Geomorphology (4) OR GEOS 420 Applied Hydrogeology (4)
**B.S. MAJOR - EARTH SCIENCE (Teaching) (ESCT)**

124-126 S.H. (128 S.H. required for graduation)

The program below meets Minnesota Board of Teaching (BOT) 5-12 Earth and Space Science licensure requirements in place at the time the catalog went to press. Students should be aware that the program described below may change significantly in the near future, as the BOT considers changes to the Science Licensure programs; therefore, students should work closely with their academic advisor to ensure that they will be able to graduate with a BOT-approved degree. Completion of the program outlined below will enable the student to apply for a license to teach grades 5-12 science with an earth science specialty.

In addition, work is underway to fully align the major program requirements with the needs of the University Studies Program. Some courses included in the major program below may be approved for University Studies credit in the future. The Geoscience Department is working in cooperation with other secondary licensure programs and the Education Department to ensure that teacher-licensure programs meet both BOT and University Studies requirements. See your academic advisor for more information.

**Note:** Teaching majors must take all courses in the Professional Education Sequence in addition to courses in the content area listed below. Refer to these requirements in the Education Department section of this catalog (page 90), or refer to the WSU Teacher Education Student Handbook. Students must gain admission to the teacher education program before they enroll in Professional Education Sequence courses. See your academic advisor or the Department of Education Admissions Coordinator for more information.

**UNIVERSITY STUDIES (USP) (19 S.H.)**

**BASIC SKILLS (7 S.H.)**

ENG 111 College Reading and Writing (4)
CMST 191 Introduction to Public Speaking (3)
Math (0) filled by major requirements below

**ARTS AND SCIENCES CORE (6 S.H.)**

*Humanities* (3) (3 S.H. filled by PHIL 240)
*Sociales Sciences* (0) (3 S.H. filled by SPED 400; 3 S.H. filled by EDSC 305 below)
*Natural Science* (0) filled by major requirements

**UNITY AND DIVERSITY (6 S.H.)**

*Critical Analysis* (3 S.H.)
*Science and Social Policy* (0) (3 S.H. filled by GEOS 325 below)
*Multicultural or Global Perspectives* (0) (3 S.H. filled by EDUC 308)

**FLAG REQUIREMENTS (0 S.H.)**

Writing Flag (0) (6 S.H. filled by EDUC 449 and EDSC 459 below)
Oral Flag (0) (3 S.H. filled by EDUC 465 below)
Mathematics/Statistics or Critical Analysis Flag (0) (3 S.H. filled by EDUC 312)

**EARTH SCIENCE REQUIREMENTS (80-82 S.H.)**

Geoscience Courses - GEOS (34-36 S.H.)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>105</td>
<td>Astronomy</td>
<td>4</td>
</tr>
<tr>
<td>110</td>
<td>Oceanography</td>
<td>4</td>
</tr>
<tr>
<td>115</td>
<td>Meteorology</td>
<td>4</td>
</tr>
<tr>
<td>120</td>
<td>Dynamic Earth</td>
<td>4</td>
</tr>
<tr>
<td>130</td>
<td>Earth and Life through Time</td>
<td>4</td>
</tr>
<tr>
<td>220</td>
<td>Minerals and Rocks</td>
<td>4</td>
</tr>
<tr>
<td>280</td>
<td>Field and Analytical Methods</td>
<td>2</td>
</tr>
</tbody>
</table>

**Other Required Courses (46-48 S.H.)**

* Biology – BIOL (8 S.H.)
  * 241  Basics of Life (4)
  * 242  Organismal Diversity (4)

* Chemistry – CHEM (8 S.H.)
  * 212 / 213 Principles of Chemistry I, II (8)

* Physics – PHYS (12 S.H.)
  * 201 / 202 General Physics I, II (8)
  * 311  Science Teaching Methods (4)

* Mathematics – MATH (6-8 S.H.)
  * 150  Modeling Using Precalculus and Statistics (3), MATH 155 Calculus Based Modeling (3) OR
  * 120  Precalculus (4) AND MATH 160 Calculus I (4)

* Philosophy – PHIL (3 S.H.)
  * 240  Philosophy of Science (3)

* Health, Exercise Science and Rehabilitative Sciences – HERS (3 S.H.)
  * 204  Personal and Community Health (3) (counts as USP Physical Development and Wellness)

* Special Education – SPED (3 S.H.)
  * 400  Education of Exceptional Children/Youth (3) (counts as USP Social Sciences)

* Women's and Gender Studies – WAGS (3 S.H.)
  * 220  Power, Privilege, and Gender (3) (counts as USP Multicultural Perspectives)

**PROFESSIONAL EDUCATION SEQUENCE (32 S.H.)**

Notes:

1. These courses require formal admission to the teacher education program.
2. The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to press. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

* EDUC 305  Human Development and Learning (4)
* EDUC 308  Human Relations and Student Diversity (3)
* EDUC 312  Instructional Planning and Assessment: Secondary (3)
* EDUC 429  Secondary Reading and Teaching Strategies (4)
* EDUC 449  Middle Level Philosophy, Organization and Planning (3)
* EDUC 459  The Professional Educator (3)
* EDST 465  Student Teaching (12)

Note: EDUC 305 and 312 must be taken together in the same semester; they will not be offered during the summer term.

**OTHER REQUIREMENTS**

In addition to the above course requirements, all students must demonstrate that they have:

1. Judged a local, regional, or state science fair, or mentored K-12 students on their science fair projects
2. Hosted a geoscience visit by a K-4 class
3. Hosted a geoscience visit by a 5-12 class
4. Worked as a departmental teaching assistant or peer tutor in geoscience.

**B.S. MINOR - GEO SCIENCE (GEOS)**

24-25 S.H.

**REQUIRED COURSES - GEOS (9-10 S.H.)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td>Dynamic Earth with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>OR GEOS 121 Dynamic Earth (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>Earth and Life through Time</td>
<td>4</td>
</tr>
<tr>
<td>280</td>
<td>Field and Analytical Methods</td>
<td>2</td>
</tr>
</tbody>
</table>

**GEO SCIENCE ELECTIVES (15 S.H.)**

Choose electives from the Geoscience "Electives" pool. Electives must include at least two laboratory courses numbered 300 or above. Electives may include one course from the Geoscience Introductory Pool (courses numbered 100 - 199) other than those listed as required above.

* *Additional Requirements* course as defined in Item 3, page 18
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Minnesota Rocks and Waters (3)</td>
<td></td>
<td>Introduction to Minnesota's geological history focusing on such topics as Minnesota's rock record and history, fossils, mining, soils, lakes, rivers, and ground water. Lecture; no laboratory. Offered with sufficient demand.</td>
</tr>
<tr>
<td>102</td>
<td>Resources of the Earth (3)</td>
<td></td>
<td>An investigative exploration of significant global resources with emphasis on fossil fuels, non-fossil fuels, water, and other energy resources. Geologic processes governing each are explored. Prediction, impacts, economic, and political scenarios are examined. Offered with sufficient demand.</td>
</tr>
<tr>
<td>103</td>
<td>Natural Disasters (3)</td>
<td></td>
<td>An investigative exploration of significant geohazards impacting the Earth with emphasis on volcanoes, earthquakes, landslides and other hill slope failures, hurricanes, and tornadoes, pollution, and floods. Geologic processes governing each type of disaster are explored. Prediction, impacts and mitigation potential for each hazard are examined. Lecture; no laboratory. Offered yearly.</td>
</tr>
<tr>
<td>104</td>
<td>Catastrophes and Extinctions (3)</td>
<td></td>
<td>Over 99% of the animal species that once inhabited the Earth are now extinct. Remarkably, most of these extinctions have been associated through time with significant geologic events that are considered by many to be catastrophic. In this course, students will explore the major extinctions that have taken place through geologic history. These include the extinction of numerous marine invertebrate species, the extinction of the dinosaurs 65 million years ago, the extinction of large mammals during the last ice age, and many others. Weekend (overnight) field trip required. Lecture only. Prerequisites: None. Offered with sufficient demand.</td>
</tr>
<tr>
<td>105</td>
<td>Astronomy with Laboratory (4)</td>
<td></td>
<td>History of astronomy. Study of the planets, their moons, comets, asteroids, meteors, and other planetary bodies. Origin of the universe, solar system, sun, and other stars. Lecture, laboratory, and observation required. Offered yearly, usually in the fall semester. Note: Students may enroll in either GEOY 105 or GEOY 106, but they cannot earn credit for both courses.</td>
</tr>
<tr>
<td>106</td>
<td>Astronomy (3 S.H.)</td>
<td></td>
<td>History of astronomy. Study of the planets, their moons, comets, asteroids, meteors, and other planetary bodies. Origin of the universe, solar system, sun, and other stars. Lecture only. Offered yearly, usually fall semester. Note: Students may enroll in either GEOY 105 or GEOY 106, but they cannot earn credit for both courses.</td>
</tr>
<tr>
<td>108</td>
<td>Geology of the Mississippi River (3 S.H.)</td>
<td></td>
<td>Investigation of the geologic history, river processes, and resource management of large rivers, particularly focusing on the Mississippi River. Topics include an exploration of the relationship between the Mississippi River and its watershed, soils, groundwater, bedrock geology, and humans. Concepts emphasized will include the hydrologic cycle, plate tectonics, river morphology, river dynamics, resource management, and public policy issues. Lecture; no laboratory. Prerequisites: None. Offered alternate years.</td>
</tr>
<tr>
<td>110</td>
<td>Oceanography with Laboratory (4 S.H.)</td>
<td></td>
<td>Introduction to oceans including the ocean floor, marine sediments, composition of sea water, ocean currents, waves and tides, marine biology, and oceanic resources. Lecture and laboratory required. Offered alternate years, usually spring semester. Note: Students may enroll in either GEOY 110 or GEOY 111, but they cannot earn credit for both courses.</td>
</tr>
<tr>
<td>111</td>
<td>Oceanography (3 S.H.)</td>
<td></td>
<td>Introduction to oceans including the ocean floor, marine sediments, composition of sea water, ocean currents, waves and tides, marine biology, and oceanic resources. Lecture only. Offered alternate years, usually spring semester. Note: Students may enroll in either GEOY 110 or GEOY 111, but they cannot earn credit for both courses.</td>
</tr>
<tr>
<td>115</td>
<td>Meteorology with Laboratory (4 S.H.)</td>
<td></td>
<td>Study of Earth's dynamic weather system including atmospheric structure, composition, and processes; origin and development of storms and related phenomena. Lecture and laboratory required. Offered alternate years, usually spring semester. Note: Students may enroll in either GEOY 110 or GEOY 110, but they cannot earn credit for both courses.</td>
</tr>
<tr>
<td>116</td>
<td>Meteorology (3 S.H.)</td>
<td></td>
<td>Study of Earth's dynamic weather system including atmospheric structure, composition, and processes; origin and development of storms and related phenomena. Lecture only. Offered alternate years, usually spring semester. Note: Students may enroll in either GEOY 115 or GEOY 116, but they cannot earn credit for both courses.</td>
</tr>
<tr>
<td>120</td>
<td>Dynamic Earth with Laboratory (4 S.H.)</td>
<td></td>
<td>An introduction to geologic principles and the processes shaping planet Earth. Composition and distribution of Earth materials; examination of internal processes and their relationship to the distribution of continents over time; surficial processes and environmental problems. Lecture and laboratory. Offered each semester. Note: Students may enroll in either GEOY 120 or GEOY 120, but they cannot earn credit for both courses.</td>
</tr>
<tr>
<td>121</td>
<td>Dynamic Earth (3)</td>
<td></td>
<td>An introduction to geologic principles and the processes shaping planet Earth. Composition and distribution of earth materials; examination of internal processes and their relationship to the distribution of continents over time; surficial processes and environmental problems. Lecture only. Note: Students may enroll in either GEOY 120 or GEOY 121, but they cannot earn credit for both courses.</td>
</tr>
<tr>
<td>122</td>
<td>Minerals and Rocks (4 S.H.)</td>
<td></td>
<td>Introduction to minerals as naturally occurring inorganic chemical compounds. Physical and chemical properties of minerals, classification and description of minerals, with emphasis on rock-forming minerals. Classification, description, and interpretation of major rock groups. Lecture and laboratory combined in studio format. Prerequisite: GEOY 120 or instructor's permission. Field trips required. Offered spring semester.</td>
</tr>
<tr>
<td>123</td>
<td>Watershed Science (4 S.H.)</td>
<td></td>
<td>Examination of the hydrologic cycle and surface-water and ground-water relationships. Study of interrelationship of water and Earth materials, including ground-water occurrence, movement and determination of aquifer characteristics. Lecture and laboratory. Prerequisite: GEOY 130. Field trips required. Offered yearly, usually fall semester.</td>
</tr>
<tr>
<td>130</td>
<td>Geology of the Mississippi River (3 S.H.)</td>
<td></td>
<td>Examination of the geologic history, river processes, and resource management of large rivers, particularly focusing on the Mississippi River. Topics include an exploration of the relationship between the Mississippi River and its watershed, soils, groundwater, bedrock geology, and humans. Concepts emphasized will include the hydrologic cycle, plate tectonics, river morphology, river dynamics, resource management, and public policy issues. Lecture; no laboratory. Prerequisites: None. Offered alternate years.</td>
</tr>
<tr>
<td>140</td>
<td>Sedimentology and Stratigraphy (4)</td>
<td></td>
<td>History of sedimentary rocks. Study of the processes that have formed sedimentary rocks. Lecture and laboratory. Field trips required. Prerequisite: GEOY 120 or GEOY 120, but they cannot earn credit for both courses.</td>
</tr>
<tr>
<td>145</td>
<td>Applied Hydrogeology (4)</td>
<td></td>
<td>Study of groundwater resources. Lecture and laboratory. Field trips required. Offered alternate years.</td>
</tr>
<tr>
<td>150</td>
<td>Earth and Life through Time (4 S.H.)</td>
<td></td>
<td>Examination of the hydrologic cycle and surface-water and ground-water relationships. Study of interrelationship of water and Earth materials, including ground-water occurrence, movement and determination of aquifer characteristics. Lecture and laboratory. Prerequisite: GEOY 130. Field trips required. Offered yearly, usually fall semester.</td>
</tr>
<tr>
<td>160</td>
<td>Environmental Geoscience (3)</td>
<td></td>
<td>Basic geologic field techniques including sampling methods, rock identification, field descriptions, and use of Brunton compass. Measurement and description of stratigraphic sections. Prerequisite: ENG 111 and instructor's permission. Corequisite: GEOY 220. Field trips required. Offered each fall semester.</td>
</tr>
<tr>
<td>170</td>
<td>Geologic Research Strategies (2)</td>
<td></td>
<td>Students may enroll in either GEOY 170 or GEOY 170, but they cannot earn credit for both courses.</td>
</tr>
<tr>
<td>180</td>
<td>Watershed Science (4 S.H.)</td>
<td></td>
<td>Examination of the hydrologic cycle and surface-water and ground-water relationships. Study of interrelationship of water and Earth materials, including ground-water occurrence, movement and determination of aquifer characteristics. Lecture and laboratory. Prerequisite: GEOY 130. Field trips required. Offered yearly, usually fall semester.</td>
</tr>
<tr>
<td>190</td>
<td>Field and Analytical Methods I (2 S.H.)</td>
<td></td>
<td>Basic geologic field techniques including sampling methods, rock identification, field descriptions, and use of Brunton compass. Measurement and description of stratigraphic sections. Prerequisite: ENG 111 and instructor's permission. Corequisite: GEOY 220. Field trips required. Offered each fall semester.</td>
</tr>
<tr>
<td>200</td>
<td>Optical Mineralogy and Petrology (4 S.H.)</td>
<td></td>
<td>Theory of optical mineralogy. Optical properties of minerals determined by petrographic microscope. Introduction to major sedimentary, igneous, and metamorphic rocks. Lecture and laboratory. Field trips required. Prerequisite: GEOY 120 or GEOY 120, but they cannot earn credit for both courses.</td>
</tr>
</tbody>
</table>
metamorphic rocks; mineral equilibria and stability, mineralogic phase rule and metamorphic facies. Rock identification by megascopic and petrographic techniques. Lecture and laboratory combined in studio format. Prerequisite: GEOS 220. Field trips required. Offered alternate years in the spring semester.

325 - Environmental Geoscience (3 S.H.)
Study of the environmental implications of human interactions with natural geological systems. An emphasis is placed on understanding environmental science concepts and how scientific findings ultimately shape public policy and political decisions. Topics typically include climate change, water resources, alternative energy resources, soils and weathering, and coastal processes. Course is taught from an Earth systems perspective. Discussion-oriented lecture format. Lecture only. Prerequisite: Any University Studies Natural Science laboratory course or instructor's permission. Offered alternate years, usually spring semester.

330 - Structural Geology (4 S.H.)
Study of faulting, folding, mechanics of rock deformation and structural techniques. Principles of plate tectonics and mountain building. Lecture and laboratory combined in studio format. Prerequisite: GEOS 220. Field trips required. Offered spring semester.

340 - Sedimentology and Stratigraphy (4 S.H.)
Physical, chemical, and biological processes that affect sedimentation and depositional systems. Study of stratigraphic nomenclature and correlation, facies models and depositional sequences, eustatic changes of sea level, and plate tectonics. Lecture, laboratory and required field trips. Prerequisites: GEOS 220 and ENG 111. Offered fall semester.

370 - GIS and Imaging Techniques (3 S.H.)
Techniques of using aerial photographs, remote sensing, and GIS for geological applications. Prerequisites: CMST 191, GEOS 130, and instructor's permission. Offered alternate years in the spring semester.

385 - Geology of North America (3 S.H.)
Study of the physiographic provinces of the North American continent with emphasis on geomorphology, structural history, stratigraphy and mineral deposits of each province. Lecture and discussion. Prerequisite: GEOS 220. Offered with sufficient demand.

399 - Internship (1-3 S.H.)
Supervised governmental agency, business, industrial or research institution experience designed by Geoscience faculty advisor, work supervisor, and student. Open only to Geoscience students with junior or senior standing, math/science GPA 2.5 or better, and approval by the Geoscience Department. Offered each semester.

400 - Directed Research-Geoscience (1-3 S.H.)
Independent study of selected geologic field and/or laboratory problem with subsequent preparation of written report and oral seminar. May be repeated up to 6 credits. Prerequisite: Department chairperson's permission. Offered each semester.

405 - Current Topics in Geoscience (1-3 S.H.)
Analysis of current topics and issues relevant to Geosciences. Subject matter and prerequisites will be announced in advance by the department. May be repeated as topics change. Offered with sufficient demand.

415 - Advanced Geomorphology (4 S.H.)
Study of the nature and evolution of land forms and materials at or near Earth’s surface. Analysis of land forms using topographic maps and aerial photographs. Soil-forming processes and soil classification. Lecture and laboratory. Prerequisite: GEOS 130. Offered alternate years in the fall semester. Field trips required.

420 - Applied Hydrogeology (4 S.H.)
Application of hydrologic principles to ground-water flow problems, aqueous geochemistry, and contaminant studies. Techniques of water well development, aquifer tests, determination of ground-water chemistry. Use of computer models and other analytical tools. Lecture and laboratory. Prerequisites: GEOS 240 and MATH 155 or MATH 160. Field trips required. Offered alternate years in the spring semester.

425 - Global Climate Change (3 S.H.)
Exploration of the Earth's most recent glacial/interglacial cycles; geological and faunal evidence, the sequence of historical events, potential causative factors, environmental responses and rates of change, and pertinence to contemporary global change. An emphasis will be placed on understanding the mechanisms of climate change in relation to geological processes. Prerequisite: GEOS 325 or the instructor's permission. Offered in alternate years, usually spring semester.

450 - Travel Study in Costa Rica (3 S.H.)
Focuses on student-based field research to assist the municipalities of Playa Dominical and Playa Uvita in developing their natural resources, tourism products, and associated services. Students will inventory natural resources, gather tourism demand and supply data, and participate in constructing a database to help local officials make better tourism-related decisions. Prior to the research study, students will be exposed to basic tourism and natural resources development concepts that have applications in Playa Dominical and Playa Uvita. Post-study work will focus on report development and the assessment of other tourism products and services in Costa Rica. Prerequisites: Instructor’s permission and concurrent enrollment in MKTG 450 and RTTR 450. Offered most May terms subject to student demand.

470 - Geological Research Strategies (2 S.H.)
Instruction in designing, planning, and conducting geological research. Students will gain experience in background research using scientific literature, writing a research proposal, planning a research budget, project management, data quality control and assurance procedures, conducting field and laboratory research, and setting realistic goals and deadlines for project completion. Course activities and lectures will be adapted to specific student projects. Includes some lecturing; however, the course delivery style will emphasize the value and importance of peer-to-peer review, discussion, and collaboration in completing scientific research. Usually taken before or concurrently with GEOS 400. Prerequisite: Instructor’s permission. Offered each semester, subject to sufficient student interest.

475 - Geoscience Seminar (1 S.H.)
Critical reading, discussion, and oral presentation of current topics and controversies in geosciences. Focus on professional journals and other scientific media. Prerequisite: Senior standing in department or instructor's permission. Offered spring semester.

SCIENCE EDUCATION (SCIE)

201 - Investigative Science I: Earth—The Water Planet (4 S.H.)
A field-based integrated experience designed specifically for elementary education majors. Inquiry-based exploration of biological, chemical, geological, and physical characteristics of water in the community. Focus on development of pre-service student pedagogical content knowledge and connections to state and national science education standards as relates to teaching science in elementary schools. Field trips required. Enrollment limited to elementary education majors. Lecture and laboratory combined. Prerequisites: None. Offered yearly.

203 - Investigative Science III: Scientific Investigation of your Environment (4 S.H.)
A field-based, integrated experience designed specifically for elementary education majors. Inquiry-based exploration of biological, chemical, geological, and physical characteristics of environmental problems facing the local community. Focus on development of pre-service student pedagogical content knowledge and connections to state and national science education standards as relates to teaching science in elementary schools. Field trips required. Enrollment limited to elementary education majors. Lecture and laboratory combined. Prerequisites: SCIE 201, EDUC 335, and admission to teacher education program. Offered yearly.
GLOBAL STUDIES
Minne Hall, Room 120 (507-457-5500; fax 507-457-2621)
www.winona.edu/globalstudies
Yogesh Grover (Director)

FACULTY
Michael Bowler, Assistant Professor; B.A. University of Notre Dame; M.A., M.Sc., Ph.D., Syracuse University; 2004 –
Linda D’Amico, Associate Professor; B.S., M.A., Ph.D., Indiana University- Bloomington; 2000 –
Yogesh Grover, Professor; B.A., M.A., University of Delhi (India); Ph.D., University of Missouri-Columbia; 1988 –
Matthew Strocher, Assistant Professor; B.A., M.A., University of Texas; Ph.D., University of Washington; 2007 –
Weidong Zhang, Assistant Professor; B.A., M.A., Nanjing University (China); M.A., Ph.D., University of Iowa; 2007 –

GLOBAL STUDIES: DEFINITION AND RATIONALE
The Global Studies program takes a multidisciplinary approach to understanding the growing interconnectedness and interdependence among people and countries of the world. Global Studies explores the causes and consequences of this multi-faceted phenomenon and examines the various responses to it. Global Studies examines change at the global and local level. In this program, humanities, social, and natural science courses provide a foundation for understanding global change, the varied human reactions to it, and the possibility that this change can have a positive impact on humanity as a whole. Thus, Global Studies encompasses a field of study that cannot be adequately captured by one discipline or field of knowledge. Students majoring or minoring in Global Studies gain a sound understanding of the forces shaping our world so that they are prepared to participate effectively in the world they encounter after graduation, whether they decide to work in the United States or abroad.

WSU offers both a B.A. Major and a B.A. Minor in Global Studies. Because Global Studies contains many courses that are drawn from different disciplines, students will find that it is a major can be taken independently or combined with another major or minor. Several University Studies Program (general education) courses also fulfill the requirements of this major; thus, students may complement Global Studies with another major or minor. Alternatively, students with a strong preference for other majors will find it useful to have Global Studies as a minor that can provide a global context for the area of knowledge they have acquired. For a list of University Studies courses, see page 19, or visit www.winona.edu/registrar/university_studies_requirements.htm for the most up-to-date list.

PROGRAM REQUIREMENTS
Students intending to major in Global Studies must complete all the university graduation requirements (page 23). Courses fulfilling the major requirements must be taken for credit only. At least 21 of the 58 major semester hours must be met with 300-400 level courses.

PASS/NO CREDIT (P/NC) COURSES
Except for internships and practica, students must take all courses in their major, minor, options, concentrations and licensures on a grade-only basis. Students testing out of language courses may use a passing grade to satisfy the language requirements of the major. The P/NC option is available to non-majors and non-minors unless otherwise noted. Courses offered on a pass/no credit-only or grade-only basis are so designated in the course descriptions.

UNIVERSITY STUDIES FLAG REQUIREMENTS
Students may use flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student’s major or minor program. The Global Studies program offers the following flag course in the University Studies Program:

FLAG
Oral
GS 360 Contemporary Asian Issues (3)
Writing
GS 355 Asian International Relations (3)

B.A. MAJOR - GLOBAL STUDIES
58 S.H. (No Minor Required)

This major has two parts:
- Part I (Global Perspectives) provides students a general framework that organizes the different aspects of globalization.
- Part II (Regional Perspectives) offers students an opportunity to gain in-depth knowledge about one of the following regions of the world: Asia, Europe, Latin America, or North America.

Students can examine the impact of global developments on the region they choose to study, and conversely, the impact of regions in influencing global forces. The emphasis upon global-regional interaction is the distinguishing feature of this program.

PART I: GLOBAL PERSPECTIVES
(18 S.H.)
REQUISITE COURSES (6 S.H.)
GS 200 Introduction to Global Studies (3)
GS 400 Global Studies Seminar (3)

MAJOR ELECTIVES (12 S.H.)
Electives (for majors and minors) are organized in the following four categories:
- Global Environment: Courses in this category consider the wholeness of the physical environment of the globe, the potential of its resources to meet human needs, the effects of human activity on the global environment, and the ways in which its resources can be responsibly managed.
- Global Governance: Courses in this category examine whether current international organizations can adequately cope with contemporary problems caused by globalization. These courses also examine efforts by various groups and countries to develop rules, norms, and institutions that can respond consistent with universal standards of human dignity and responsibility.
- Global Society and Culture: Courses in this category explore the emergence of common norms, values, and behavior around the world as a result of globalization and the spread of technology. They also examine expression and culture in different parts of the world and the dynamic of conflict and cooperation between local and global cultures.
- Global Economy: Courses in this category deal with the emergence of the global market economy, the way in which it operates, and the reaction of governments and non-governmental groups.

Students may not count more than 9 credits from any one of these categories as credit toward the major.

GLOBAL ENVIRONMENT

Biology – BIOL
104 Environment, Society, and Conservation (3)
Chemistry – CHEM
320 Environmental Chemistry (4) (prerequisite: one year of general chemistry or instructor’s permission)

Geography – GEOG
370 The Geography of Tourism - Advanced Study (3)

Geoscience – GEOS
102 Resources of the Earth (3)
103 Natural Disasters (3)
325 Environmental Geoscience (3) (prerequisite: GEOS 120 or instructor’s permission)

370 GIS and Imaging Techniques (3)

Recreation, Tourism, and Therapeutic Recreation – RTTR
302 Adventure Travel and Tourism Development (3)
GLOBAL GOVERNANCE
Political Science – POLS
* 130 Introduction to International Relations (3)
135 Comparative Political Systems (3)
205 United Nations in World Affairs (3)
225 Ethnic Conflict and Nationalism (3)
346 International Law (3) (prerequisite: *POL 130)
347 International Organization (3) (prerequisite: *POL 130)
345 Democratization & Its Challenges (3)
(prerequisite: *POL 135)

GLOBAL SOCIETY AND CULTURE
Communication Studies – CMST
381 Advanced Intercultural and International Communication (3) (prerequisite: CMST 281 or instructor’s permission)
Computer Science – CS
110 Computers in a Global Society (3)
Education – EDUC
450 Comparative Education (3) (no prerequisite)
English – ENG
221 Topics in World Literature (only sections with following topics: World Mythology, Families across Cultures, Beyond Europe & America, Postcolonial Literature) (3)
225 Topics in Literature: Meeting of East and West in Literature (1-2)
327 Genres of Literature: Reading Sacred Texts (1-2)
Mass Communication – MCOM
356 Media and Society International (3)
350 International Broadcasting (3) (prerequisite: MCOM 100)
Music – MUS
114 World Music (3)
Recreation, Tourism, and Therapeutic Recreation – RTTR
265 Leisure in Different Cultures (3)
Philosophy – PHIL
330 Biomedical Ethics (3)
Social Work – SOCW
445 Globalization of Social Welfare (3) (prerequisite: SOCW 340)
Sociology – SOC
340 Social-Cultural Anthropology (3) (prerequisite: *SOC 150)
421 Urban Sociology (3) (prerequisite: *SOC 150)

GLOBAL ECONOMY
Accounting – ACCT
424 International Taxation (3) (prerequisite: *ECON 202)
Business Administration – BUSA
411 International Business Law (3) (prerequisite: BUSA 291 or 301)
Economics (ECON) and Finance (FIN)
ECON 404 International Economics (3) (prerequisite: ECON *201 and *202)
ECON 415 International Economic Development (3) (prerequisite: ECON *201 and *202)
FIN 440 International Finance (3) (prerequisite: FIN 360)
Geography – GEOG
211 Economic Geography (3)
Management – MGMT
455 International Business (3) (prerequisite: MGMT 315 or instructor’s permission)
475 Seminar in International Management (3) (prerequisite: *MGMT 315 or instructor’s permission)
477 International Human Resources Management (3) (prerequisite: MGMT 315 or 325 and 317, or instructor’s permission)
Political Science – POLS
342 International Political Economy (3) (prerequisite: *POL 130)

GENERAL ELECTIVES
GS 205 Cultural Encounters (3 S.H.)
GS 350 Cross-Cultural Field Experience (1-9 S.H.)
GS 460 Independent Study (1-9 S.H.)

PART II: REGIONAL PERSPECTIVES (40 S.H.)
Students must choose one of the following areas of concentration: Asian Studies, European Studies, Latin American Studies, or North American Studies.

ASIAN OPTION (GSAS)
40 S.H.
REQUIRED COURSE (3 S.H.)
GS 250 Introduction to Asia (3)

FOREIGN LANGUAGE AND CULTURAL IMMERSION (16 S.H.)
Chinese – CHIN
101 Beginning Chinese I (4)
102 Beginning Chinese II (4)
201 Advanced Beginning Chinese I (4)
202 Advanced Beginning Chinese II (4)
Japanese – JPN
101 Beginning Japanese I (4)
102 Beginning Japanese II (4)
201 Advanced Beginning Japanese I (4)
202 Advanced Beginning Japanese II (4)
A minimum of 12 credits in Chinese or Japanese is required. The remaining 4 credits can be fulfilled by taking additional courses in these languages or by taking an equivalent number of credits in one or more of the following ways (see Note below):
• Cultural Encounters (GS 205)
• Cross Cultural Field Experience (GS 350)
• Approved programs (Study Abroad, Internships, etc.)
• Regional Perspectives electives beyond the requirements

Students who test out of lower-division language courses must complete the remaining credits in one or more of the ways listed above. Foreign language requirements can be waived for students if an Asian language is their first language and if they take an equivalent number of credits as listed above with the permission of the program director.

Note: Students who received a high school diploma from a Chinese- or Japanese-speaking country cannot register for CHIN/JPN 101 or 102.

ELECTIVES – REGIONAL PERSPECTIVES (21 S.H.)
E elective courses in Regional Perspectives are classified in these categories:
• Societies in Transition: Courses in this category relate to the geography of the region, the history of its peoples, and various aspects of its evolving societies.
• Power, Wealth, and the Environment: Courses in this category pertain to the general political and economic institutions, policies and processes in selected region. They also explore the impact of economic development on the physical environment and examine the policies proposed/adapted to deal with this phenomenon.
• Cultural Identity and Expressions: Courses in this category pertain to the heterogeneity of societies in the selected region, the richness of its social and cultural group life including the pursuit by these groups to express themselves in different ways

Students must take at least three courses from one of the categories and at least one course from each of the remaining categories. Courses listed in more than one category can satisfy the requirements of only one category. Some courses for this requirement will be available at Akita International University (AIU) in Japan and the Hebei University of Technology in China.

SOCIETIES IN TRANSITION
English – ENG
225 Topics in Literature (1-2)
Geography – GEOG
223 Geography of the Orient (3)
Global Studies – GS
215 Introduction to Japanese Culture (3-4)
300 Contemporary China (3-4)
360 Contemporary Asian Issues (3)
History – HIST
123 East Asian Civilization (3)
341 Modern Japan (3) (prerequisites: HIST 123, ENG 111)
343 Modern China (3)
447 America in the Vietnam War Era (3) (prerequisite: *HIST 151 or instructor’s permission)

POWER, WEALTH, AND THE ENVIRONMENT
Economics – ECON
430 Asian Economies in Transition (3) (prerequisites: ECON *201 and *202)
Global Studies – GS
355 Asian International Relations (3)
Political Science – POLS
337 Asian Political Systems (3) (prerequisite: POLS 135)

CULTURAL IDENTITY AND EXPRESSIONS
English – ENG
221 Topics in World Literature [Women in Chinese Literature] (3)
327 Genres of Literature [Modern Japanese Novel] (1-2)

Global Studies – GS
255 Peoples and Cultures of South and Southeast Asia (3)

Music – MUS
115 Music of the East and Southeast Asia (3)

Theatre and Dance – THAD
312 Japanese Classical Theatre (3)

EUROPEAN STUDIES (GSEU)
40 S.H.

REQUIRED COURSE (3 S.H.)
FLAN 218 The New Europeans: Understanding the EU (3) OR
HIST 122 Western Civilization 1815-Present (3)

FOREIGN LANGUAGE AND CULTURAL IMMERSION (16 S.H.)
Intermediate proficiency (FLAN 202 or equivalent) in one of the following Spanish, French or German:

SPAN 101 OR FREN 101 OR GERM 101
SPAN 102 FREN 102 GERM 102
SPAN 201 FREN 201 GERM 201
SPAN 202 FREN 202 GERM 202

With the approval of the program director foreign language requirements can be waived if a European language is the student’s native language and if the student takes an equivalent number of credits from the following electives.

ELECTIVES – REGIONAL PERSPECTIVES (21 S.H.)
Elective courses in Regional Perspectives are classified in these categories: Societies in Transition; Power, Wealth, and the Environment; and Cultural Identity and Expressions. These categories are defined on page 125. Students must take at least three courses from each of the categories and at least one course from each of the remaining categories. Courses listed in more than one category can satisfy the requirements of only one category.

SOCIETIES IN TRANSITION
Foreign Languages – FLAN
218 The New Europeans: Understanding the EU (3)

History – HIST
122 Western Civilization 1815-Present (3)
335 The Holocaust (3)
340 History of Christianity (3)
355 European Intellectual and Cultural History (3)
397 Topics in History (3) (World War I and Modern Memory or Environmental History of Europe)
398 Topics in History with Oral Communication Emphasis (3) (Reading Modern History or Classical Greece only)
401 Ancient Rome (3) (Prerequisite: HIST 120 or instructor’s permission)
403 Middle Ages (3) (Prerequisite: HIST 120 or instructor’s permission)
408 Renaissance (3) (Prerequisites: HIST 120 and HIST 121 or instructor’s permission)
409 Reformation (3) (Prerequisite: HIST 120 and HIST 121 or instructor’s permission)
412 French Revolution and Napoleon (3) (Prerequisite: HIST 121 or instructor’s permission)
417 Hitler and Nazi Germany (3) (Prerequisite: HIST 122 or instructor’s permission)
421 Tudor and Stuart England (3) (Prerequisite: HIST 121 or instructor’s permission)
423 Modern England (3)
434 Soviet Russia (1905-Present) (3) (Prerequisites: HIST 122 and HIST 151 or instructor’s permission)
440 World War II (3) (Prerequisites: HIST 122 and HIST 151 or instructor’s permission)

POWER, WEALTH, AND ENVIRONMENT
GEOG 326 Geography of Europe (3)
POLS 332 European Political Systems (3)

CULTURAL IDENTITY AND EXPRESSIONS
French – FREN
204 Special Topics in French Literature (2)
205 Special Topics in French Culture (2)
301 French Composition (4)
302 French Civilization and Culture (4)
401 Phonetics and Pronunciation (3)
403 French Literature I (3)
404 French Literature III (3)

German – GERM
204 Special Topics: German Literature (2)
205 Special Topics: German Culture and Language (2)
301 Advanced Reading and Structural Analysis (3)
302 German Conversation and Composition (4)
303 German Culture and Civilization (4)
401 Medieval to Baroque Literature (3)
402 18th and 19th Century Literature (3)
403 20th Century Literature (3)

Spanish – SPAN
300 Spanish Linguistics (2)
301 Spanish Composition and Conversation (4)
302 The Culture of Spain (3)
401 Spanish Peninsular Literature I (3)
402 Spanish Peninsular Literature II (3)

LATIN AMERICAN STUDIES (GSLA)
40 S.H.

REQUIRED COURSES (3 S.H.)
GS 232 Introduction to Latin America (3) OR
HIST 165 Latin American History (3)

FOREIGN LANGUAGE AND CULTURAL IMMERSION (16 S.H.)
Intermediate proficiency (FLAN 202 or equivalent) in the following:

Spanish – SPAN
101 Elementary Spanish I (4)
102 Elementary Spanish II (4)
201 Intermediate Spanish I (4)
202 Intermediate Spanish II (4)

ELECTIVES – REGIONAL PERSPECTIVES (21 S.H.)
Elective courses in Regional Perspectives are classified in the following categories: Societies in Transition; Power, Wealth, and the Environment; and Cultural Identity and Expressions. These categories are defined on page 124. Students must take at least three courses from one of the categories and at least one course from each of the remaining categories. Courses listed in more than one category can satisfy the requirements of only one category.

SOCIETIES IN TRANSITION
Global Studies – GS
232 Introduction to Latin America (3)
233 Latin American and Caribbean Immigrants in the U.S. (3)

History – HIST
165 Latin American History (3)
461 Latin American Social Revolution (3)
463 History of Mexico (3)
467 Foreign Travelers in “Exotic” Lands (3)
468 History of the Andean Nations (3)
469 History of Brazil (3)

Women’s and Gender Studies – WAGS
235 Interdisciplinary Approach to Women and Social Justice Issues in Latin America (3)

POWER, WEALTH, AND ENVIRONMENT
GEOG 225 Geography of Latin America (3)
POLS 335 Latin American Political Systems (3)
WAGS 235 Interdisciplinary Approach to Women and Social Justice Issues in Latin America (3)

CULTURAL IDENTITY AND EXPRESSIONS
SPAN 204 Special Topics in Hispanic Literature and Culture (2)
SPAN 303 The Culture of Latin America (3)
SPAN 403 Latin American Literature (4)
WAGS 234 Interdisciplinary Approach to Gender and Latin American Society Through 20th Century Literature (3)
NORTH AMERICAN OPTION (GSNA)  
40 S.H.

REQUIRED COURSE (3 S.H.)  
GS 210 Introduction to North America (3)

FOREIGN LANGUAGE AND CULTURAL IMMERSSION (16 S.H.)  
Students must demonstrate intermediate proficiency (FLAN 202 or equivalent) in either Spanish or French.

With the approval of the program director, foreign language requirements can be waived for students if English is their second language, provided they take an equivalent number of credits from the Regional Perspectives Electives.

ELECTIVES – REGIONAL PERSPECTIVES (21 S.H.)  
E elective courses in Regional Perspectives are classified in the three categories: Societies in Transition, Power, Wealth, and the Environment; Cultural Identity and Expressions. These categories are defined on page 125. Students must take at least three courses from one of the categories and at least one course from each of the remaining categories. Courses listed in more than one category can satisfy the requirements of only one category.

SOCIETIES IN TRANSITION  
Communication Studies – CMST  
281 Intercultural Communication (3)

Geography – GEOG  
270 Introduction to the Geography of Tourism (3)  
320 Geography of the United States (3)  
332 Geography of Canada (3)

Global Studies – GS  
233 Latin American and Caribbean Immigrants in the U.S. (3)

History – HIST  
* 150 United States History to 1865 (3)  
* 151 United States History since 1865 (3)  
233 History of Mexico (3)  
315 Women in US History (4) (prerequisite: 150 or 151 and ENG 111)  
336 History of North American Sports (3)  
365 American Legal History (3) (prerequisite: HIST 150 and 151 or instructor’s permission)  
485 Contemporary America 1945–Present (3) (prerequisite: HIST 151)  
486 American Intellectual and Cultural History (3)  
488 American Constitutional History (3)

Mass Communication – MCOM  
100 Mass Media and Society (3)

Music – MUS  
* 110 History of American Jazz (3)  
* 122 History of Rock Music (3)

Philosophy – PHIL  
335 Constitutional Philosophy (3)

Sociology – SOC  
440 Sociology of Dying and Death (3) (prerequisite: *SOC 150)  
450 Sociology of Aging (3) (prerequisite: *SOC 150)

POWER, WEALTH, AND THE ENVIRONMENT  
Economics – ECON  
304 Money and Banking (3) (prerequisites: ECON *201 and *202)  
315 Environmental and National Resources Economics (3) (prerequisite: *ECON 201)  
320 Business-Government Relations (3) (prerequisite: *ECON 201)  
435 The North American Economies (3) (prerequisites: ECON *201 and *202)

Geoscience – GEOS  
* 130 Earth and Life through Time (4) (North American Focus)  
385 Geology of North America (3) (prerequisite: GEOS 220)

Political Science – POLS  
* 120 Introduction to American Politics (3)  
315 American Political Thought (3) (prerequisite: POLS 120 or instructor’s permission)  
320 Constitutional Law (3) (prerequisite: POLS 120)  
321 The American Presidency (3) (prerequisite: POLS 120)  
340 The American Congress (3) (prerequisite: POLS 120)  
422 American Foreign Policy (3) (prerequisite: POLS 130)  
460 North American Relations (3) (prerequisite: POLS 130)

CULTURAL IDENTITY AND EXPRESSIONS  
Art – ART  
* 224 American Art (3)  
252 Survey of Women Artists (3)

Communication Studies – CMST  
289 Gender and Communication (3)

English – ENG  
220 Multicultural American Literatures (3)

History – HIST  
220 Introduction to African American History (3)  
235 History of the American Indian (3) (prerequisite: ENG 111)  
315 Women in US History (4) (prerequisite: HIST *150 or *151 and ENG 111)  
320 North American Indian Civilization (3) (prerequisite: HIST 235)

Music – MUS  
440 American Art Music (3) (prerequisite: MUS 109)

Political Science – POLS  
330 Race and American Politics (3) (prerequisite: *POLS 120)

Sociology – SOC  
412 Sexuality in American Society (3) (prerequisite: *SOC 150)  
423 Race Relations and Minority Groups (3) (prerequisite: *SOC 150)

B.A. MINOR - GLOBAL STUDIES (GLST)  
24 Credits (Minimum of 12 credits at 300–400 level)

REQUIRED COURSES (6 S.H.)  
GS 200 Introduction to Global Studies (3)  
GS 400 Global Studies Seminar (3)

MINOR ELECTIVES (18 S.H.)  
The electives for the minor are organized in the following four categories: Global Environment, Global Governance, Global Society & Culture, and Global Economy. These categories are defined on page 124.

Students must take at least 3 credits from each of the categories, but may not count more than 9 credits from any one of the categories as credit toward the minor. With the approval of the program director, students may use up to 9 credits from the General Electives (page 128) to fulfill minor requirements.

Global Environment  
Biology – BIOL  
104 Environment, Society, and Conservation (3)

Chemistry – CHEM  
320 Environmental Chemistry (4) (prerequisite: one year of general chemistry or instructor’s permission)

Geography – GEOG  
370 The Geography of Tourism – Advanced Study (3)

Geoscience – GEOS  
102 Resources of the Earth (3)  
103 Natural Disasters (3)  
325 Environmental Geoscience (3) (prerequisite: GEOG 120 or instructor’s permission)  
370 GIS and Imaging Techniques (3)

Recreation, Tourism, and Therapeutic Recreation – RTTR  
302 Adventure Travel and Tourism Development (3)

GLOBAL GOVERNANCE  
Political Science – POLS  
* 130 Introduction to International Relations (3)  
135 Comparative Political Systems (3)  
205 United Nations in World Affairs (3)  
225 Ethnic Conflict and Nationalism (3)  
343 Human Rights in Theory and Practice (3)  
346 International Law (3) (prerequisite: *POLS 130)  
347 International Organization (3) (prerequisite: *POLS 130)  
475 Democratization and Its Challenges (3) (prerequisite: *POLS 135)

GLOBAL SOCIETY & CULTURE  
Communication Studies – CMST  
381 Advanced Intercultural and International Communication (3) (prerequisite: CMST 281)

Computer Science – CS  
110 Computers in a Global Society (3)

Education – EDUC  
450 Comparative Education (3) (no prerequisite)

* "Additional Requirements" course as defined in Item 3, page 18
English – ENG
221  Topics in World Literature [only sections with following topics: World Mythology, Families across Cultures, Beyond Europe & Asia, Post-Colonial Literature]
225  Topics in Literature [Meeting of East and West in Literature] (1-2)
327  Genres of Literature [Reading Sacred Texts] (1-2)

Mass Communication – MCOM
356  Media and Society International (3)
450  International Broadcasting (3) (prerequisite: MCOM 100)

Music – MUS
114  World Music (3)

Recreation, Tourism, and Therapeutic Recreation – RTTR
265  Leisure in Different Cultures (3)

Philosophy – PHI
330  Biomedical Ethics (3)

Social Work – SOCW
445  Globalization of Social Welfare (3) (prerequisite: SOCW 340)

Sociology – SOC
340  Social-Cultural Anthropology (3) (prerequisite: SOC 150)
421  Urban Sociology (3) (prerequisite: SOC 150)

GLOBAL ECONOMY

Accounting – ACCT
424  International Taxation (3) (prerequisite: *ECON 202)

Business Administration – BUSA
411  International Business Law (3) (prerequisite: BUSA 291 or 301)

Economics (ECON) and Finance (FIN)
ECON 404  International Economics (3) (prerequisite: ECON *201 and *202)
ECON 415  International Economic Development (3) (prerequisite: ECON *201 and *202)
FIN 440  International Finance (3) (prerequisite: FIN 360 Corporate Finance)

Geography – GEOG
211  Economic Geography (3)

Management – MGMT
455  International Business (3) (prerequisite: MGMT 315 or instructor's permission)
475  Seminar in International Management (3) (prerequisite: MGMT 315 or instructor's permission)
477  International Human Resources Management (3) (prerequisite: MGMT 315 or 325, or 317, or instructor's permission)

Political Science – POLS
342  International Political Economy (3) (prerequisite: *POLI 130)

GENERAL ELECTIVES
GS 205  Cultural Encounters (3 S.H.)
GS 350  Cross-Cultural Field Experience (1-9 S.H.)
GS 460  Independent Study (1-9 S.H.)

COURSE DESCRIPTIONS

GLOBAL STUDIES (GS)

200 – Introduction to Global Studies (3 S.H.)
This course introduces students to a framework for viewing the world as a unit and explores a variety of contemporary global issues such as economic development, environmental problems, status of women, world population and its implications, ethnic conflicts, etc. Offered each semester.

205 – Cultural Encounters (3 S.H.)
This course is conducted as a learning community. It seeks to bring together linguistically, ethnically, and culturally diverse students in an effort to achieve academic and social cross-fertilization of their backgrounds and academic concentrations and, thereby, promote cultural understanding and enrichment. Offered every other year.

210 – Introduction to North America (3 S.H.)
This course is an introduction to the physical, historical, social, political, literary, and cultural aspects of the three primary North American countries of Canada, the United States and Mexico with emphasis on the interrelationships among them and the human experience throughout them, especially that of peoples who have been marginalized in the past.

215 – Introduction to Japanese Culture (3-4 S.H.)
This course explores Japanese culture and civilization from its prehistoric roots to the present. Beginning with physical conditions such as geography and climate, this course will examine how such realities have affected religious, historical, political, and regional social structures. From these, the course will proceed to cultural productions, including both “high” and “popular” culture. The goal of the course is not merely to show students how Japan is, but to encourage them to think about why Japan has emerged as it has during the past 2,500 years and to develop an informed perspective on where Japan and its people may be headed in the future.

232 – Introduction to Latin America (3 S.H.)
The Latin America–Caribbean region is one of the world's most misunderstood regions. Geographically, this region is very complex and culturally diverse; historically, it has been the scene of constant abuse and violent changes. In this introductory course, a global explanation of the processes that link the three major cultural groups (indigenous peoples, Afro-American, and Iberian) will be explored. The interactions will be examined within social, historical, and ethnographic contexts. Grade only. Offered every other year.

233 – Latin American and Caribbean Immigrants in the U.S. (3 S.H.)
This course focuses on immigration as a process, not an event, and on the diversity of the Hispanic experience in the U.S. It integrates historical, economic, and cultural sources to achieve a broad perspective in understanding the fastest-growing ethnic group in the 21st Century. Grade only. Offered every other year.

250 – Introduction to Asia (3 S.H.)
This course provides an interdisciplinary overview of the areas that make up the Global Studies Asian Regional Perspective: East, Southeast, and South Asia. An introduction to this region, its societies, political economies, geography, religions, arts, and history will be provided. Offered yearly.

255 – Peoples and Cultures of South and Southeast Asia (3 S.H.)
This course focuses on the particular peoples and cultures of South and Southeast Asia—two of the most populous regions of the world, the issues that their cultural diversity raise, and their contribution to understanding of similar diversity issues globally. Offered once every two years.

300 – Contemporary China (3-4 S.H.)
This course provides an overview of the changes occurring in China. Building upon a description of its culture, history and people; the course will enable students to understand contemporary China by emphasizing the changes affecting its economy, educational system, environment, evolving value system, and international relations.

350 – Cross-Cultural Field Experience (1-9 S.H.)
The cross-cultural field experience is typically part of a WSU-approved Study Abroad Program. The field experience gives students an opportunity to explore cultural issues through experiences outside the classroom situation and to integrate direct cultural experiences with theoretical understanding of cultural issues. May be repeated for up to 9 semester hours. This course cannot be used to fulfill University Studies credit. Prerequisite: Permission of the instructor and the GSP Director.

355 – Asian International Relations (3 S.H.)
This course provides an introduction to international relations in Asia, including East, Southeast, and South Asia. The course will focus both upon inter-Asian relations as well as the role of Asia in shaping international and global affairs. Offered once every two years.

360 – Contemporary Asian Issues (3 S.H.)
This course provides an interdisciplinary analysis of current issues in Asia including globalization, regional cooperation, immigration, development, the environment, conflict, and human rights. Offered every other year.

400 – Global Studies Seminar (3 S.H.)
This course allows students to engage in an in-depth examination of global issues, using a cross-disciplinary approach. Prerequisite: GS 200. Offered yearly.

435 – Indigenous Social Movements in Latin America (3 S.H.)
This course allows students to engage in an in-depth analysis and research of indigenous social movements in Latin America. In addition to exploring diverse ethnic traditions, the course will analyze and compare how indigenous groups are transforming cultural, economic, and political life in the region. Prerequisites: GS 200 and GS 232.

460 – Independent Study (1-9 S.H.)
Directed independent work on specific topics of interest to the student. The course topics, requirements, meeting times and number of semester hours are to be determined through consultation with the instructor. Repeatable for credit up to a total of 9 semester hours. Prerequisite: Permission of the instructor and the GSP Director.

CHINESE LANGUAGE (CHIN)

101 – Beginning Chinese I (4 S.H.)
Beginning Chinese 101 is designed to acquaint students with grammatical structures and vocabulary appropriate for beginning learners. Instruction focuses on development of all four skills (speaking, listening, reading, and writing) and cultural knowledge.
SCHOLARSHIPS

A complete listing explaining the criteria for each scholarship is available in the HERS Department office. Students should inquire about scholarships by contacting Dr. Shellie Nelson at 507-457-5219 (snelson@winona.edu) or Dr. Brian Zeller at 507-457-5575 (bzeller@winona.edu). See page 187 for more information.

Students majoring in athletic training and interested in pursuing graduate study through completion of pre-professional course sequences should contact Dr. Kyle Poock at 507-457-5219 (gkastello@winona.edu).

The Movement Science major also prepares students for entry into graduate schools in a movement science field such as biomechanics, kinesiology, exercise physiology, or motor control.

The Department of Health, Exercise and Rehabilitative Sciences (HERS) offers pre-physical therapy advising. Dr. Gary Kastello is responsible for advising students interested in these pre-professional programs or graduate study in a movement science field. Students may contact Dr. Kastello at 507-457-5219 (gkastello@winona.edu).

Students majoring in athletic training and interested in pursuing graduate study through completion of pre-professional course sequences should contact Dr. Shellie Nelson at 507-457-5214 (snelson@winona.edu) or Dr. Brian Zeller at 507-457-5575 (bzeller@winona.edu). See page 187 for more information about the pre-professional sequences.
INSURANCE
In academic courses, practica, and internships, HERS majors will be exposed to a wide array of school, clinical, and community experiences that enhance their education. Students participating in these experiences will be assessed a nominal fee each academic year for professional liability insurance. Yearly coverage is secured by an insurance provider determined by the Minnesota Office of Risk Management in cooperation with Minnesota State Colleges and Universities annually on an incident/occurrence and aggregate rate basis.

In addition, student teachers may purchase liability insurance directly from the student chapter of the Education Minnesota Student Program (EMSP). Such policies are available to other majors through their professional organizations. Students should contact their advisor for more information.

PASS/NO CREDIT (P/NC) COURSES
Except for internships, students must take all courses in the major, minor, or options on a grade-only basis. The P/NC option is available to non-majors unless otherwise noted. Courses offered on a pass/no credit only or grade only basis are so designated in the course descriptions.

INTERNSHIPS AND PRACTICA
The department utilizes variable credits for practica (1-5 credit hours) and internships (1-12 credit hours). Each HERS program has minimal credit hour requirements for each internship and/or practicum.

UNIVERSITY STUDIES FLAG REQUIREMENTS
Students may use flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student’s major or minor program. The Department of Health, Exercise and Rehabilitation Sciences offers the following flag courses in the University Studies Program:

FLAG

Oral

Writing

Math/Critical Analysis

HERS 328 Behavioral Interventions (3)

HERS 380 Laboratory Methods in Exercise Science (3)

HERS 403 Epidemiology (3)

HERS 340 Physiology of Exercise (4)

HERS 350 Program Planning in Health Promotion (3)

HERS 430 Public Health (3)

HERS 445 Medical Aspects of Exercise (3)

REQUIRED COURSES 57 S.H.
Health, Exercise and Rehabilitation Sciences - HERS (46 S.H.)
204 Personal & Community Health (3)
288 Health Perspectives (3)
311 Comprehensive School Health Program (3)
312 Community Health (3)
315 Health Promotion Skills (3)
326 Educational Topics/Issues (2)
328 Behavioral Interventions (3)
350 Programming Planning in Health Promotion (3)
395 Practicum in Health Promotion (3)
403 Epidemiology (3)
415 Grant Writing (3)
430 Public Health (3)
433 Senior Health Seminar (1)
496 Health Education Internship (10)

B.S. MAJOR - HEALTH PROMOTION
A student majoring in Health Promotion may choose either School Health or Community Health. Each program leads to a Bachelor of Science degree and can be completed in four years, if the student begins the program during the freshman year. Students completing these degrees will be able to meet the competencies of entry-level health educators and be prepared to pass the exam for Certified Health Education Specialist (CHES) certification.

• Upon completion of Health Promotion: School Health, students have the skills and experience necessary to obtain a Minnesota teaching license. Students are required to pass the Minnesota PRAXIS test for teaching licensure. Students who complete this degree and pass the PRAXIS test are qualified to teach in the Minnesota public school system grades 5-12.

• Health Promotion: Community Health gives students a thorough grounding in the theory and skills involved in the promotion of public and community health. The degree is designed to provide students with the experience and background they need to be eligible for entry-level jobs as health educators and health promoters in governmental agencies and non-governmental organizations including hospitals, businesses and other health-related organizations such as the American Red Cross, American Cancer Society, American Heart Association, and the American Diabetic Society. The degree may also be used as a foundation for post-graduate study and is particularly useful for Master’s degree programs in public health, health promotion, or health education.

The HERS Department encourages its health promotion majors to become members of its academic club, Health Organization for Promotion and Education (HOPE).

B.S. MAJOR - HEALTH PROMOTION - COMMUNITY HEALTH (HPCH)
57 S.H. (Minor Recommended)

Students majoring in Health Promotion: Community Health must complete all requirements of the HERS Department and all the requirements for graduation specified in the academic policies section of this catalog (page 23). It is recommended that all students completing this degree also complete a minor in a health-related field or double major in an area that will complement the health promotion degree. Suggested minors include biology, business administration, chemistry, communication studies, computer science, gerontology, global studies, intercultural communication, management, management information systems, marketing, mass communication, operational management, philosophy, physics, political science, psychology, sociology, Spanish, training and development, or women’s and gender studies. Students must have a 2.50 major GPA to intern and graduate with this degree.

B.S. MAJOR - HEALTH PROMOTION: SCHOOL HEALTH (HPST)
86 S.H.

Students majoring in Health Promotion: School Health must complete all requirements of the HERS Department, the Education (EDUC) Department, and all the requirements for graduation specified in the academic policies section of this catalog (page 23). Teaching majors must successfully complete all the courses in the Professional Education Sequence in addition to the school health content area. For admission into the Professional Education Sequence, students majoring in health promotion-school health must have both a 2.75 overall GPA and a 2.50 major GPA. For more information about these requirements, refer to the WSU Teacher Education Student Handbook.

REQUIRED COURSES (44 S.H.)
Health, Exercise and Rehabilitation Sciences - HERS (36 S.H.)
204 Personal & Community Health (3)
288 Health Perspectives (3)
311 Comprehensive School Health Program (3)
312 Community Health (3)
320 Health Education in the Elementary School (3)
321 Health Education in the Middle & Secondary Schools (3)
326 Educational Topics/Issues (2)
1. These courses require formal admission to the teacher education program. (See page 91, “Admission to the WSU Teacher Education Program.”)

2. The College of Education plans to restructure some program offerings in 2007-2008. As a result, the content, numbering, and/or credit hours for Professional Education Sequence courses will likely be revised after this catalog goes to print. To obtain the latest course requirements, please refer to the current program sheets, which are available from the department office or online at www.winona.edu/education/advising.

† EDUC 305 Human Development and Learning: Secondary (4)
† EDUC 308 Human Relations and Student Diversity (3)
† EDUC 312 Instructional Planning and Assessment: Secondary (3)
† EDUC 429 Secondary Reading and Teaching Strategies (4)
EDUC 449 Middle Level Philosophy, Organization, and Interdisciplinary Planning (3)
† EDUC 459 The Professional Educator (3)
† EDST 465 Student Teaching [Health (5-12) 12 credits] [Health/PE (K-12) 16 credits]
† Courses must be taken together.
‡ Courses must be taken together and the last semester prior to student teaching.

**ELECTIVES (9 S.H.)**

<table>
<thead>
<tr>
<th>Biology - BIOL (8 S.H.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>211  Anatomy and Physiology I (4)</td>
</tr>
<tr>
<td>212  Anatomy and Physiology II (4)</td>
</tr>
</tbody>
</table>

**PROFESSIONAL EDUCATION SEQUENCE**

(32-36 S.H.)

**Notes:**

1. At least 4 of the courses must be taken together.
2. Students interested in working with cardiac or pulmonary patients in a clinical setting should choose Cardiopulmonary Rehabilitation.
3. Students interested in exercise and health programming in a variety of settings such as fitness centers, worksite settings, or athletic programs should choose Exercise Science.
4. Students interested in pursuing graduate studies in exercise or rehabilitative sciences (such as kinesiology, biomechanics, exercise physiology, physical therapy, occupational therapy, physician’s assistant, and chiropractic medicine) should choose Movement Science. Additional information on exercise science career opportunities can be found at www.acsm.org, www.nsca-lift.org, and www.aspet.org.

**ACADEMIC REQUIREMENTS**

For a checklist of the University’s graduation requirements, see page 23. Specific academic requirements for Exercise and Rehabilitative Science majors are described within each major.

**CORE REQUIREMENTS (50 S.H.)**

<table>
<thead>
<tr>
<th>Health, Exercise and Rehabilitative Sciences - HERS (32 S.H.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>235  Professional Issues in Exercise Science (3)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Health, Exercise and Rehabilitative Sciences - HERS (21 S.H.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>280  Techniques of Fitness Programming (2)</td>
</tr>
<tr>
<td>291  Prevention and Care of Athletic Injuries (2)</td>
</tr>
<tr>
<td>314  Anatomical Kinesiology (3)</td>
</tr>
<tr>
<td>340  Physiology of Exercise (4)</td>
</tr>
<tr>
<td>360  Nutrition for the Physically Active (3)</td>
</tr>
<tr>
<td>370  Mechanical Kinesiology (3)</td>
</tr>
<tr>
<td>380  Laboratory Methods in Exercise Science (3)</td>
</tr>
<tr>
<td>389  Strength and Conditioning Principles and Programming (3)</td>
</tr>
<tr>
<td>403  Epidemiology (3)</td>
</tr>
<tr>
<td>445  Medical Aspects of Exercise (3)</td>
</tr>
</tbody>
</table>

**EXERCISE AND REHABILITATIVE SCIENCE: CARDIOPULMONARY REHABILITATION (ERCR)**

77 S.H.

This clinically focused exercise physiology major has several career-related tracks. Its primary purpose is to prepare students to care for individuals who suffer from cardiovascular and/or pulmonary disease utilizing a therapeutic program of exercise, risk factor reduction and education in a structured rehabilitation setting. A hospital and/or clinic are the primary employers. The curriculum is structured around the American College of Sports Medicine (ACSM) knowledge, skill, and ability learner outcomes; students are encouraged to sit for the ACSM (Exercise Specialist) certification exam after graduation. Practical clinical experiences at our on-campus cardiopulmonary rehabilitation program and at Community Memorial Hospital (Winona, MN) are required. A 600-hour “capstone” clinical internship is also required when all coursework is complete. The internship site locations are national in scope of placement.

Many students who enter this field choose related allied health tracks for employment as a result of their practical and internship experience. Some further their education in a special clinical field (ultrasonography is one example). Our students are also satisfactorily employed in Stress Testing (nuclear included) labs, catheter labs, patient education positions, community rehabilitation programs, ECG fields, and other cardiovascular related specialties. More information can be obtained from www.acsm.org or www.aspet.org.

Academic graduation requirements include:

- Attain a “C” or better in all major courses.
- Attain a 2.5 or better overall GPA.

**CORE REQUIREMENTS (50 S.H.)**

See the list of Core Requirements above.

**REQUIRED COURSES (27 S.H.)**

**Health, Exercise and Rehabilitative Sciences - HERS (21 S.H.)**

| 344  Electrocardiography (3) |
| 361  Practicum in Cardiopulmonary Rehabilitation (3) |
| 385  Senior Seminar: Cardiopulmonary Rehabilitation (3) |
| 420  Clinical Exercise Testing and Prescription (4) |
| 497  Internship in Cardiopulmonary Rehabilitation (8) |
| Nursing - NURS (3 S.H.) |
| 392  Cardiac Risk Prevention (3) |
| 432  Stress Management (3) |

**EXERCISE AND REHABILITATIVE SCIENCE: EXERCISE SCIENCE (ERES)**

76 S.H.

This major prepares students to administer comprehensive health and fitness programs to a variety of clients. Through coursework and other experiences, students learn how to design and administer appropriate strength, power, flexibility, agility, and cardiorespiratory programs based on clients’ goals, needs, and abilities. Students also learn how to administer health appraisals, assess client needs, design and administer appropriate programs such as: smoking cessation, low back, blood pressure, weight control, and nutrition counseling. Employment opportunities include...
corporate facilities, fitness centers, hospital wellness programs, community centers, or athletic programs.

Students may choose to specialize in areas such as strength training, personal training, nutrition, strength and conditioning with athletes, or working with unique populations through practicum and internship experiences. Upon completion of the degree, students are prepared to sit for American College of Sports Medicine (ACSM) certification as a Health Fitness Instructor and/or National Strength & Conditioning Association (NSCA) certification as a Certified Strength and Conditioning Specialist or Certified Personal Trainer.

Academic graduation requirements include:
- Attain a “C” or better in all major courses.
- Attain a 2.5 or better overall GPA.

**CORE REQUIREMENTS (50 S.H.)**

See page 131 for a list of Core Requirements.

**REQUIRED COURSES (26 S.H.)**

Health, Exercise and Rehabilitative Sciences - HERS (23 S.H.)

- 204 Personal and Community Health (3)
- 288 Health Perspectives (3)
- 328 Behavioral Interventions (3)
- 350 Program Planning in Health Promotion (3)
- 363 Practicum in Exercise Science (3)
- 499 Internship in Exercise Science (8)

Psychology - PSY (3 S.H.)

- 210 Introduction to Psychological Science (3)

**SUGGESTED ELECTIVES**

Accounting – ACCT

- 211 Financial Accounting Principles (3)

Biology – BIOL

- 171 Medical Terminology (1)
- 172 Medical Terminology (1)

Business Administration – BUSA

- 291 Legal Environment of Business (3)

Counselor Education – CE

- 432 Stress Management (3)

Economics and Finance – ECON

- ECON 201 Principles of Microeconomics (3)

Health, Exercise and Rehabilitative Science – HERS

- 344 Electrocardiography (3)
- 420 Clinical Exercise Testing and Prescription (4)

Management – MGMT

- 315 Principles of Management (3)

Psychology – PSY

- 250 Developmental Psychology (3)
- 298 Health Psychology (3)
- 420 Abnormal Psychology (3)

**EXERCISE AND REHABILITATIVE SCIENCE: MOVEMENT SCIENCE (ERMS)**

96-98 S.H.

This major is designed to meet graduate school entrance requirements in a Movement Science field including biomechanics, exercise physiology, kinesiology, motor learning, physical therapy, occupational therapy, physician's assistant, or chiropractic medicine. Students should meet early with the advisor to plan their program of study. The course of study provides students with a thorough understanding of areas related to both natural and movement science. Each student is required to develop an appropriate research project; perform data collection; and present the results as a poster presentation, journal article, or research paper.

Students enrolled in the Exercise and Rehabilitative Science: Movement Science major must maintain a minimum 3.0 GPA in the Exercise Science core and the Movement Science coursework. If students fail to meet these requirements, they will be put on academic probation and be given one semester to attain the 3.0 GPA. If, after one semester, the student fails to meet the 3.0 GPA, she/he will be dismissed from Movement Science program of study.

**CORE REQUIREMENTS (50 S.H.)**

See page 131 for a list of Core Requirements.

**REQUIRED COURSES (46-48 S.H.)**

Health, Exercise and Rehabilitative Sciences — HERS (7-9 S.H.)

- 364 Practicum in Movement Science (1-3)
- 390 Movement Science Research Design (3)
- 412 Movement Science Research Data Collection (3)

Mathematics and Statistics – MATH (4 S.H.)

- 120 Precalculus (4)

Psychology – PSY (9 S.H.)

- 210 Introduction to Psychological Science (3)
- 250 Developmental Psychology (3)
- 420 Abnormal Psychology (3)

Physics – PHYS (8 S.H.)

- 201 General Physics I (4)
- 202 General Physics II (4)

Chemistry – CHEM (8 S.H.)

- 212 Principles of Chemistry I (4) AND
- 213 Principles of Chemistry II (4)

Sociology – SOC (3 S.H.)

- 150 Human Society (3)

Biology – BIOL (4 S.H.)

- 241 Basics of Life (4) OR
- 242 Organismal Diversity (4)

Computer Science – CS (3 S.H.)

- 130 Introduction to Basic Programming (3) OR
- 116 Web Technology (3)

**SUGGESTED ELECTIVES**

Biology – BIOL

- 209 Microbiology (3)
- 307 Cell Biology Laboratory (1)
- 308 Cell Biology (3)
- 309 Developmental Biology (3)
- 310 Genetics (3)
- 340 Virology (3)
- 430 Molecular Biology (3)
- 431 Molecular Biology/Lab (4)
- 470 Histology (4)

Chemistry – CHEM

- 340 Organic Chemistry Survey (4)

Health, Exercise and Rehabilitative Sciences – HERS

- 344 Electrocardiography (3)
- 420 Clinical Exercise Testing and Prescription (4)

Mathematics – MATH

- 160 Calculus I (4)
- 161 Calculus Companion (1)

**B.S. MAJOR – ATHLETIC TRAINING (AT)**

85 S.H.

The Athletic Training major is nationally accredited by the Commission on Accreditation of Athletic Training Education (CAATE). In addition to the academic coursework requirements, students must complete a clinical education experience and fieldwork experiences as assigned by the Director of Athletic Training Education. Students who complete the clinical education and academic requirements of the major are eligible for national certification from the Board of Certification.

Students interested in majoring in Athletic Training must apply to the program, participate in a competitive selection process, and adhere to published retention guidelines. Additional information about the program can be found at www.winona.edu/athletictraining.

**CAREER OPPORTUNITIES**

Winona State University has a long-standing tradition of graduates who become certified athletic trainers and make positive contributions to the allied health profession of athletic training. While some WSU graduates have secured positions with professional, semi-professional, and Olympic teams, others have qualified for positions as university head athletic trainers, athletic training clinical directors, and clinic-high school athletic trainers. Other graduates have pursued post-graduate study in athletic training, human performance, exercise physiology, physical therapy, physician's assistant, and chiropractic programs.

**CORE REQUIREMENTS (54 S.H.)**

Health, Exercise and Rehabilitative Sciences - HERS (33 S.H.)

- 204 Personal & Community Health (3)
- 235 Professional Issues in Exercise Science (3)
- 280 Techniques of Fitness Programming (2)
- 314 Anatomical Kinesiology (3)
- 340 Physiology of Exercise (4)
- 360 Nutrition for the Physically Active (3) *(Prerequisite: HERS 205)*
- 370 Mechanical Kinesiology (3)
- 380 Laboratory Methods in Exercise Science (3)
- 389 Strength and Conditioning Principles and Programming (3)
- 403 Epidemiology (3)
Students that have met all academic and clinical learning outcomes should first year at WSU. Students enroll in HERS 291 and HERS 314 and begin with the Director of Athletic Training Education and enroll in HERS 191. Students obtained traditional clinical education experiences with football, equipment intensive sports, and general medical rotations. These experiences may be acquired at a variety of settings that include Clinical Instructors (ACIs), as well as experiences with other types of health care providers. However, the majority of the student’s clinical experiences will be at WSU in a traditional athletic training setting. Students obtain traditional clinical education experiences with football, hockey, gymnastics, soccer, basketball, volleyball, softball, track, and wrestling. Students have many opportunities to attend team practices and events, travel with teams, attend NCAA Division II post-season competitions, attend orthopedic surgeries, and learn from our team physician on campus and at the clinic or hospital. Athletic Training majors build on the foundation courses of anatomy, physiology, kinesiology, exercise physiology, nutrition, and mechanical kinesiology with specific athletic training education courses. These courses expose the student to CAATE competencies and proficiencies in injury prevention, recognition, evaluation, treatment, and rehabilitation. Clinical sites include the athletic training facilities at WSU, Saint Mary’s University, Winona Senior High School, and other area high schools. Students also gain valuable community-based medical experience at Sports and Orthopaedic Specialists; Sport & Spine Physical Therapy Clinic; Rushford Medical Clinic; Winona Area Ambulance Service; Ping Chiropractic and Wellness Center; and Community Memorial Hospital’s Physical Therapy, Emergency, Surgery, and Urgent Care departments. APPLICATION AND SELECTION INFORMATION Students who are interested in majoring in Athletic Training should meet with the Director of Athletic Training Education and enroll in HERS 191 (Introduction to Athletic Training), BIOL 211, and BIOL 212 during their first year at WSU. Students enroll in HERS 291 and HERS 314 and begin clinical education experiences during the fall semester of the second year. Applications are due late November each year. Special Admission If space is available, a special admission may be held during the summer. Students that have met all academic and clinical learning outcomes should notify the Director of Athletic Training Education that they wish to apply for special admission. Applications and interviews will be due during the last week of July. (Dates and requirements are posted and emailed to all majors.) Students admitted during the summer are expected to participate in all in-service and clinical education opportunities available in August. When the academic year begins, students will join the previous year’s sophomore class to progress through the Athletic Training Education Program. Application Process Applications will be rated and ranked, and students will be selected for interview. The selection committee determines the number of students selected from each academic class. This number directly correlates with the number of clinical educators available each year. Each applicant must provide the following:

1. Official Documentation (10 points) should be sent from the following institutions or agencies to the Program Director.
   - Winona State University Transcripts: To be considered, students must have a cumulative 2.75 GPA and a 2.75 GPA in the major. Students must have completed HERS 191, BIOL 211, and BIOL 212. When they apply, students should be enrolled in HERS 291 and HERS 314 and be progressing appropriately. Other exercise and rehabilitative science and biology courses will also be evaluated independent of the overall GPA.
   - Transfer students must provide official transcripts from all other institutions attended. Transfer students must take HERS 191 at WSU and participate in all application and selection procedures at WSU. Transfer students must meet all University guidelines given in the catalog for transfer students and must take HERS 291, 345, 362, 389, 391, 392, 393, 491, 492, 494, and 495 at WSU.
   - Proof of First Aid, CPR Certification, or First Responder Certification.
   - Completed Medical Physical (form available from the Director of Athletic Training Education).
   - Completed Technical Standards (form available from Athletic Training Program Director).
   - Hepatitis B vaccinations (or declination).

2. Winona State University Observation Hours and Reflective Journal (10 points). Each student will complete observation hours in the WSU Athletic Training Room as required for HERS 191. Each student will compile a typed journal documenting dates, times of field experience, sequence of events, elaboration of significant experiences, and an analysis of the experiences. Students will be given the opportunity to continue their observation hours throughout the first year for a total of no more than 70 hours per year. Students will continue their Reflective Journal in HERS 291.

3. Letters of Recommendation (13 points). Each student is required to provide a total of five letters of recommendation. Two of these letters will be from a Senior Athletic Training Student reflecting the student’s daily interaction in the athletic training room. Three of these letters will be professional letters of recommendation. These letters should be from professionals in the medical, health, or allied health field with whom the student has worked directly through observation hours such that they can reflect the student’s potential to succeed in an allied health profession. These professional letters may also be from professors or instructors reflecting the student’s academic success and potential. Finally, these letters may be from employers reflecting the student’s maturity, interpersonal skills, and other qualities of a successful allied health care professional.

4. Cover letter and resume (4 points). The completed application should include a single-spaced essay or cover letter stating the student’s qualifications to be part of the program, why the student wishes to become an athletic trainer, and a summary of what the student can add to the program. A simple one-page resume should also be included.

WSU Athletic Training Student Retention Competencies The following academic, clinical, and program compliance requirements apply for athletic training students who have successfully completed the application process and who have been selected to the Athletic Training Education Program. Detailed retention information can be found at http://www.winona.edu/athletictraining.

Academic Requirements The Director of Athletic Training Education reviews transcripts at the beginning of each semester. Students must:
   - Meet WSU graduation standards (page 23)
   - Maintain a cumulative WSU GPA not less than 2.75
   - Maintain a 2.75 overall GPA in the Athletic Training major
   - Attain a “B” or better in all athletic training courses: HERS 191, 291, 345, 362, 391, 392, 393, 491, 492, 494, and 495
Clinical Education Requirements

- Compliance with all objectives, policies and procedures established in the WSU Athletic Training Education Handbook.
- Compliance with the NATA’s Code of Ethics (Athletic Training Education Handbook).
- Compliance with the WSU Student Handbook (Student Rights and Responsibilities published in semester class schedules).
- Compliance with assignments/directions given by the athletic training Approved Clinical Instructors (ACI).
- Demonstration of appropriate clinical skill acquisition paralleling clinical and academic experience.
- Positive monthly and annual evaluations.
- Satisfactory completion of “Assessment Day” activities.

Detailed requirements are posted on the program’s website at: www.winona.edu/athletictraining.

Program Compliance

Athletic training students are expected to comply with all academic and clinical guidelines. Athletic training students must act in a mature, responsible manner that will reflect positively on themselves, the Athletic Training Education Program, and the University while performing academic and clinical education. These expectations, due process rights, sanctions, dismissal, appeals, and assistance procedures are clearly outlined in the Athletic Training Education Handbook (see program website www.winona.edu/athletictraining) and covered extensively in HERS 191, Introduction to Athletic Training.

COURSE DESCRIPTIONS (HERS)

HEALTH PROMOTION

204 - Personal & Community Health (3 S.H.)
Addresses individual and community health issues. Investigates the dimensions of personal wellness that influence health behavior. Course material covers content, self-assessments and journal entries in relationship to behavioral change. Alcohol, tobacco and/or other drugs with emphasis on prevention strategies are addressed as mandated by Minnesota state law 126.06. Upon successful completion of this course, students will (1) have knowledge of basic health content areas; (2) understand journaling and the value of nutrition, exercise and weight management; and (3) know how family history is of value. Grade only. Offered each semester.

288 - Health Perspectives (3 S.H.)
An introduction to health education and health promotion. Analyzes the foundations of the discipline of health education including theories of health education. Explores the theories of behavior change. Investigates the career opportunities in all health education/promotion settings. Introduces professional organizations and certifications for the field of health education including worksite health promotion. Upon successful completion of this course, students will (1) understand the many different theories of health, (2) know the history and philosophy of health education/promotion, and (3) be exposed to several health working documents. Prerequisite: HERS 204. Grade only. Offered each semester.

311 - Comprehensive School Health Program (3 S.H.)
An introduction to the concepts and practice of school health promotion. This course provides students the opportunity to develop their understanding of the factors that influence the promotion of health in schools. The course is designed to help future community health educators and health teachers gain experience in the assessment of school health needs and understand the issues involved in advocating for comprehensive school health and planning school health promotion programs. Prerequisites: HERS 204 and HERS 288. Grade only. Offered fall semester only.

312 - Community Health (3 S.H.)
This course provides students with a foundation in the theory and practice of community health promotion. Students will have the opportunity to develop their understanding of the socio-cultural, political, and economic factors involved in community health. By the end of the course, students will have the theoretical and practical background necessary to enable them to play a coordinating and facilitating role in planning and implementing effective community health promotion initiatives. Prerequisites: HERS 204 and HERS 288. Grade only. Offered spring semester only.

315 - Health Promotion Skills (3 S.H.)
This course gives students the opportunity to learn and practice the skills needed to design health messages and implement health education/promotion programs. These skills include understanding the needs of diverse communities, research methodology, health promotion material design, and health promotion resource management. Prerequisites: HERS 204, HERS 288, and HERS 312. Grade only. Offered yearly.

320 - Health Education in the Elementary Schools (3 S.H.)
Designing Pre-8 educational programs consistent with specified program objectives, includes development of logical scope and sequence plan for an elementary health education program. Applying individual or group learning process methods appropriate to given early childhood, elementary and middle school level learning situations. Proper techniques and skills needed to successfully meet the National Health Education Standards and the Minnesota State Graduation Standards. Upon successful completion of this course, students will (1) know the Coordinated School Health Program, (2) apply methodology of Elementary Health Education, and (3) know and understand the process of writing and implementing lesson plans. Prerequisites: HERS 204. Grade only. Offered each semester.

321 - Health Education in the Middle & Secondary Schools (3 S.H.)
Future school health professionals will learn the best practices of health curriculum for middle school and secondary students. Students will learn to specify objectives, develop sequential learning activities, create challenging and motivating lessons, and develop a curriculum for middle and/or secondary schools. Students will learn to apply individual and group learning process methods appropriate for middle school and high school students. Students will also learn proper techniques and skills needed to successfully meet the National Health Education Standards and the Minnesota State Graduation Standards. Upon successful completion of this course, students will have an educated position on the most important current public health issues. They will also be able to argue knowledgeably and coherently in support of their position and be able to give accurate information about the issues studied. Prerequisites: HERS 204 and HERS 288. Grade only. Offered each semester.

328 - Behavioral Interventions (3 S.H.)
Application of theories of behavior change to program planning for the secondary student and adult population. Students utilize a wide range of techniques and strategies for community and secondary health education. Upon successful completion of this course, students will (1) be able to create, develop and write teaching strategies, (2) learn proper presentation skills, and (3) become advocates for the field of health education/promotion. Prerequisites: HERS 204 and HERS 288; teaching option majors: HERS 320. Grade only. Offered fall semester.

350 - Program Planning in Health Promotion (1-3 S.H.)
This is a practical course in which students are responsible for undertaking needs assessment research and developing a health promotion program in collaboration with a local business or agency. The course enables students to apply the knowledge and experience gained in lower level courses to real world problems and to further develop their health promotion/health communication skills. Prerequisites: HERS 204, 288; health promotion majors: HERS 311, HERS 312. Grade only. Offered each semester.

395 - Practicum in Health Promotion (1-3 S.H.)
This course gives students practical experience in the implementation of health promotion programs. Students in the course will support the implementation and evaluation of a health promotion program in a community setting. Students may work on projects previously designed during their program planning class, or they may be involved in the implementation and evaluation of a health promotion program designed by another agency. Students are expected to clear their site choice with their onsite supervisor and the course instructor of HERS 350 (Program Planning in Health Promotion) before registering for HERS 395. Prerequisites: HERS 204, 288, 312, 321, 326, 328, 350. Grade only. Offered each semester.

403 - Epidemiology (3 S.H.)
An introduction to basic concepts of epidemiology. Students will study the ways in which disease is transmitted and distributed within populations and develop a working knowledge of basic biostatistics and epidemiological methodology. The course also provides students with an introduction to EPI Info statistical software. Prerequisites for Health Promotion majors: HERS 204, 288; BIOL 211, 212, STAT 110. Prerequisites for non-Health Promotion majors: HERS 204, STAT 110, or instructor’s permission. Grade only. Offered each semester.
415 - Grant Writing (3 S.H.)
An examination of the skills required to locate funding opportunities and write and submit grant applications and reports for health promotion and education programs. This course is designed to help students to gain experience and practice in finding grant money and applying for grants to undertake community health projects. Prerequisites: Students must have senior standing. Grade only. Offered yearly.

425 - Organization and Administration of School Health (3 S.H.)
Organization and administrative aspects of an effective school health education/promotion program pertaining to budgets, personnel, facilities, legal responsibilities, home/school/community communications, and the formulation of practical modes of collaboration among educational settings. Includes the creation and development of scope and sequence as applied to the Minnesota State Graduation Standards and the National Health Standards. Upon successful completion of this course, students will (1) understand the policy and procedures required to be an administrator in the area of health education; (2) become knowledgeable regarding curriculum development; and (3) become both an advocate and a resource person for health education, upholding state standards and recommendations. Prerequisites: HERS 204, 288, and 311. Grade Only. Offered yearly.

430 - Public Health (3 S.H.)
This course explores the foundations of public health practices, including health organization/agency structures and specific health concerns of target populations. The course places particular emphasis on the social influences on individual and community health. It examines the reasons for health disparities and explores the problems and the challenges faced by modern public health workers and health promoters. The main goal of the course is to increase students' understanding and knowledge of public health to inform their future practice as health promoters. Prerequisites: HERS 204, 288, 311, 312, 352 and 353. Grade only. Offered yearly.

431 - Health Issues Workshop (1-3 S.H.)
Explores recent and relevant issues, trends and programming developments in health education/promotion. Designed for teachers, school nurses, school administrators, undergraduates and/or graduate students. Junior or senior standing. May be repeated for credit. Upon successful completion of this course, students will (1) create, develop, and oversee the workings of health conferences; (2) professionally represent Winona State University; and (3) be able to work through the evaluation process of conferences and conventions. Offered upon demand.

433 - Senior Health Seminar (1 S.H.)
In-depth school and community health analysis. Review of responsibilities and competencies for entry-level health educators, for Certified Health Education Specialist (CHES) credentials and ethical considerations and standards, as outlined by the Society of Public Health Educators. Completion of professional files: resume, the development of a letter of application, professional presentation for interviews, professional portfolios and skills needed to make one marketable. Upon successful completion of this course, students will (1) complete all professional papers (resume, cover letter, references, etc.) that are required by the career and placement center on campus; (2) secure credible references for their file; and (3) develop their working professional portfolio. Prerequisites: HERS 204, 288, 311, 410; BIOL 211 and 212. Recommended prerequisites: HERS 403 and STAT 130. Senior standing. Grade only. Offered yearly.

490 - Independent Study in Health (1-3 S.H.)
Opportunities for undergraduates to work on an advanced health issue, research or with technology/presentation methods. Prerequisites: Junior or senior standing, preparation of proposed outline, permission of the major advisor and Department chairperson. Grade only. Offered upon demand.

496 - Internship in Community Health (10-12 S.H.)
A capstone experience designed to prepare the student for entry-level Community Health Educator. The course will culminate in the completion of the internship. Prerequisites: Senior standing, all major coursework completed and approved by the Health Promotion faculty, and instructor's permission. P/NC.

EXERCISE AND REHABILITATIVE SCIENCE

191 - Introduction to Athletic Training (1 S.H.)
In-depth view of the certification requirements, WSU Program Handbook, policies, procedures, selection and retention requirements, as well as athletic training room observation and journal. Prerequisite: Department approval. Grade only. Offered each semester.

205 - Nutrition for Lifetime Wellness (3 S.H.)
Introduction of basic nutritional concepts and their application to lifetime wellness. Topics will include nutrition standards, nutrients, weight management, eating disorders, life cycle nutrition, and disease prevention. A personal dietary analysis is also included. Offered each semester.

235 - Professional Issues in Exercise Science (3 S.H.)
Introductory course for professional socialization and role development, including communication and assessment skills. Ethical issues and professionalism also are discussed. Grade only. Offered each semester.

280 - Techniques of Fitness Programming (2 S.H.)
Practical experiences in the assessment of health-related fitness components and the knowledge to design training programs for improvement of these factors. Grade only. Offered each semester.

291 - Prevention and Care of Athletic Injuries (2 S.H.)
 Prevention, evaluation, treatment and taping of athletic injuries. Lectures, demonstrations, and laboratory experience. Prerequisites: Current first aid certification and either BIOL 211 (for HERS and PESS majors) or PESS 251 (for coaching minors). Grade only. Offered each semester: fall semester for athletic training major only; spring semester for all other majors or minors.

305 - Health, Exercise and Medicine: An International Perspective (3 S.H.)
This course is an interdisciplinary travel program designed to expose students to medicine, health, and exercise in a society outside of the United States. Students will engage in different learning opportunities, including peer group presentations, lectures/discussions from specialists in their field, placement in clinical sites to interact with peers and mentors from the United Kingdom, and hands-on learning experiences in various settings.

314 - Anatomical Kinesiology (3 S.H.)
The structure and function of the human body will be systematically studied as it applies to human movement, exercise and sport. Prerequisites: BIOL 211 and 212 or equivalent. Grade only. Offered each semester.

340 - Physiology of Exercise (4 S.H.)
Major physiological systems of the human body and their responses to acute and chronic exercise. Energy systems of exercise, physiological support systems, exercise prescription, and methods of physical training are addressed. Lecture and lab. Prerequisites: BIOL 212 with grade of “C” or higher. Grade only. Offered each semester.

344 - Electrocardiography (3 S.H.)
Theory and practice in the interpretation of the electrocardiogram, cardiovascular physiology, and special characteristics of ECGs for certain cardiovascular diseases. Lecture, Lab, ECG case study review. Prerequisites: HERS 340 for HERS majors; BIOL 212 for non-HERS majors. Grade only. Offered fall semester only.

345 - Emergency Response for the Professional Rescuer (3 S.H.)
This course is designed to teach emergency care skills and the accompanying knowledge, which are needed by emergency caregivers such as policemen, fire department members, park rangers, and other first-line caregivers. Upon successful completion of the class, students will be issued American Red Cross “Emergency Care” and “CPR for the professional rescuer” cards. This course will not prepare the student to become an Emergency Medical Technician. Prerequisites: PER 214 or First Aid and CPR certification. Offered yearly.

360 - Nutrition for the Physically Active (3 S.H.)
Nutritional requirements for the active individual and athletes. Topics of study will include carbohydrate, protein, fat, vitamin, mineral and water requirements of active populations, as well as the use of nutritional ergogenic aids for performance enhancement. Prerequisites: HERS 205 and 340. Grade only. Offered each semester.

361 - Practicum in Cardiopulmonary Rehabilitation (3 S.H.)
Students will be required to complete three semesters of practicum for one credit hour each semester for a total of 3 S.H. The first practicum will be either second semester of the sophomore year or first semester of the junior year and will be at WSU’s Phase III Cardiopulmonary Laboratory. The second practicum will be completed with Phase II & III patients at Winona Health’s Cardiopulmonary Laboratory. The last practicum will be completed at WSU and provide the student with the opportunity to interpret, apply, and assist in daily operations and client care. Students must possess current American Heart CPR, AED, and First Aid certification.

362 - Athletic Training Practicum (1-5 S.H.)
Upon successful completion of the application procedure, students will enroll in one semester hour each semester for five semesters in HERS 362. Students will obtain clinical education experience with certified athletic trainers in traditional athletic training settings (university and high school athletic training facilities) and in hospital or clinic settings as scheduled by the Athletic Training Program Director. Students will be evaluated each month and will accomplish designated clinical competencies each semester enrolled. Prerequisites: program acceptance, liability insurance, current certification in First Aid and CPR, and instructor’s permission.

363 - Practicum in Exercise Science (3 S.H.)
Student will register for 1 credit hour in three separate semesters. The focus will be practical experience as a pre-professional in exercise science, with a
variety of in-class and self-directed programming experiences. Prerequisites: HERS 280, instructor's permission, and current certification in First Aid and CPR. Grade only. Offered each semester.

364 - Practicum in Movement Science (1 S.H.)
Practicum experience is designed for student site visits to either a research-oriented university, hospital or clinic, or a private business that performs movement science related measurements. On-site visits may involve shadowing a movement science professional. Additionally, students are required to attend at least one movement science professional meeting or workshop. Specific goals and objectives of the practicum experience will be in writing and agreed upon by the student, faculty advisor, and the contact at the organization where site visits are to be made. The variable credit is determined by the student and advisor based on the requirements of the graduate school to which they intend to apply. Prerequisites: HERS 314, HERS 340, HERS 370, and junior academic standing. Grade only. Offered each semester.

370 - Mechanical Kinesiology (3 S.H.)
Mechanical principles will be systematically studied as they apply to human movement. Application of these principles will be used to understand and improve the efficiency, efficacy, and safety of movement. Prerequisite: HERS 235 and 314. Grade only. Offered each semester.

380 - Laboratory Methods in Exercise Science (3 S.H.)
A series of experiments designed to achieve competency in research methods, procedures and instruments typically used in human performance laboratories. Lecture and lab. Prerequisites: HERS 235, 340 and STAT 110 or STAT 210. Grade only. Offered each semester.

385 - Senior Seminar: Cardiopulmonary Rehabilitation (3 S.H.)
Focuses on the analysis of the relationships between concepts in cardiopulmonary rehabilitation. Emphasis is placed upon helping students integrate these concepts into their professional procedure via major paper, case studies and presentations. Prerequisites: Senior standing and instructor's permission. Offered yearly.

389 - Strength and Conditioning Principles and Programming (3 S.H.)/lab
This course is designed for students preparing for the National Strength and Conditioning Association’s (NSCA) Certified Strength and Conditioning Specialist (CSCS) certification or for students wishing to gain additional practical application of exercise science, strength training and programming. The major focus of the course will be on designing, strength and conditioning programs, application of exercise prescription principles and facility management, organization and administrative procedures. Prerequisites: HERS 205, 280, 314, 340, BIOL 211 and BIOL 212. Grade only. Offered each semester.

390 - Movement Science Research Design (3 S.H.)
A detailed overview of the research process including discussion of research methods, procedures and instruments. Literature review, development, statement of the research problem, formulating the methods, writing the results and discussion. Completion of human subjects review committee application forms if needed, and completion of subject informed consent. Additionally, application of frequently used statistical tests including correlation, regression analysis, t-tests, analysis of variance, analysis of covariance, and post-hoc comparisons will be covered. Prerequisites: HERS 314, HERS 340, HERS 370, HERS 380, STAT 210. Grade only. Offered each semester.

391 - Injury Recognition of the Upper Body (3 S.H.)
Advanced course in the evaluation and recognition of athletic injuries from the lumbar spine upward. Lecture and lab. Prerequisites: Athletic training program acceptance; HERS 191 and HERS 291. Grade only. Offered yearly.

392 - Injury Recognition of the Lower Body (3 S.H.)
Advanced course in the evaluation and recognition of athletic injuries from the lumbar spine downward. Lecture and lab. Prerequisites: Athletic training program acceptance; HERS 191. Grade only. Offered yearly.

393 - Therapeutic Modalities (3 S.H.)
Exploration of pain theories, inflammation and the injury cycle. Physiological and mechanical theories of therapeutic modalities are defined and the effects of therapeutic modalities on athletic injuries throughout the injury cycle are applied. Lecture and lab. Prerequisites: Athletic training program acceptance; BIOL 211 and BIOL 212. Offered yearly.

412 - Movement Science Research Data Collection (3 S.H.)
The student will complete data collection and statistical analysis on a movement science related research topic. The project will be under the direct supervision of an HERS faculty mentor. Students will use their collected data to write one of the following: poster presentation, research paper, or a journal article. Prerequisites: HERS 314, HERS 340, HERS 370, HERS 380, STAT 210, HERS 390. Grade only. Offered fall semester only.

420 - Clinical Exercise Testing and Prescription (4 S.H.)
Methods, procedures and techniques of functional and diagnostic exercise stress testing will be emphasized. For normal, cardiopulmonary, and other special populations, special consideration is given for contraindications, pharmacological intervention, protocol selection, equipment selection, data interpretation, follow-up procedures and exercise prescription. Lecture and lab. Prerequisites: HERS 344 and 380. Grade only. Offered spring semester only.

445 - Medical Aspects of Exercise (3 S.H.)
Selected topics regarding the science and medicine of sports and exercise participation. Areas to be covered include pharmacological aspects, overtraining and overreaching, the effect of exercise on reproductive function, and particularly exercise for special populations. Prerequisites: HERS 340 and NURS 366. Grade only. Offered each semester.

490 - Independent Study in Exercise Science (1-4 S.H.)
Opportunity for undergraduates to work independently. Prerequisites: Junior or senior standing, preparation of proposed outline and major advisor's permission. Grade only. Offered each semester.

491 - Therapeutic Treatment and Rehabilitation of Athletic Injuries (3 S.H.)
Indications and applications of therapeutic modalities and rehabilitation exercises will be investigated and developed into comprehensive rehabilitation programs. Lecture and lab. Prerequisites: Athletic training program acceptance; HERS 340, HERS 370, HERS 389, HERS 392 and HERS 393. Grade only. Offered yearly.

492 - Administration of Athletic Training (3 S.H.)
Designed to prepare athletic training students for the behind-the-scenes duties that are required to ensure that an athletic program is functioning efficiently and properly. Areas covered include liability, budgeting, record-keeping, and other administrative areas. Prerequisites: Athletic training program acceptance; HERS 391, PSY 210. Grade only.

494 - Therapeutic Interventions (3 S.H.)
Anatomical review and discussion of mechanisms, specific injuries, their acute treatment and referral process for conditions relating to the head, face, ear, eye, nose, throat, torso, abdomen, and skin. Intervention techniques for athletes suffering physical, emotional, or psychological illnesses will be discussed. Commonly used drugs, their actions, side effects and action for abuse and testing will also be included. Prerequisites: Athletic training program acceptance; HERS 391, PSY 210.

495 - Capstone Clinical Skill Proficiencies Lab (2 S.H.)
This is a capstone clinical skill acquisition lab course. Students who have successfully completed the academic and clinical requirements of the Exercise and Rehabilitative Science: Athletic Training major will take this course in the final semester. This course will serve as the final assessment of clinical skill learning over time. Prerequisites: Final semester of Exercise and Rehabilitative Science: Athletic Training major with successful completion of all academic, clinical, and program requirements.

497 - Internship in Cardiopulmonary Rehabilitation (8 S.H.)
A capstone experience to foster the culmination of skills and abilities necessary for the entry-level cardiopulmonary clinical experience physiologist. Six hundred hours of clinical experience are required in the ACSM certified exercise specialist learner outcomes. Internship clinical sites are nationally located and an internship handbook details application, registration, and evaluation procedures. Prerequisites: Senior standing, liability insurance, current CPR and First Aid certification, all major coursework completed, and instructor’s permission. P/NC.

498 - Internship in Athletic Training (4 S.H.)
A capstone experience to foster the culmination of skills and abilities necessary for the entry-level athletic training professional. With an in-depth view of an athletic trainer’s role in the sports medicine clinic with opportunities to interact with physicians, physician assistants, physical therapists, other personnel and a diverse patient population under the direct supervision of a BOC-Certified Athletic Trainer. Opportunities for special projects, presentations and viewing surgeries may also be available. An internship handbook details admission, registration, and evaluation procedures. Prerequisites: Senior standing, liability insurance, current CPR and First Aid certification, all major coursework must be completed, and instructor’s permission. P/NC.

499 - Internship in Exercise Science (8 S.H.)
A capstone experience in exercise science to foster the culmination of skills and abilities necessary for the entry-level exercise science professional. ACSM and AWHP standards require a full semester of field experience. Prerequisites: Senior standing, liability insurance, current CPR and First Aid certification, all major coursework must be completed, and instructor’s permission. P/NC.
HISTORY
Minne Hall, Room 212  (507-457-5400)
Chairperson’s email: mbyman@winona.edu
Department’s email: lhessel@winona.edu
Marianna Byman (Chairperson)

FACULTY
Marianna Westbrook Byman, Professor; B.A., Baylor University; M.S., Winona State University; D.A., University of North Dakota; 1988 –
Seymour Byman, Professor; B.A., University of Illinois; M.A., Roosevelt University; Ph.D., Northwestern University, 1970 –
John Campbell, Professor; B.A., Wesleyan University; M.A., Ph.D., University of Minnesota-Twin Cities; 1996 –
Peter V. N. Henderson, Professor, B.A., J.D., Vanderbilt University; M.A., Ph.D., University of Nebraska-Lincoln; 1989 –
Kurt Hohenstein, Assistant Professor, B.A., J.D., M.A., University of Nebraska; Ph.D., University of Virginia, 2005 –
Colette A. Hyman, Professor; B.A., Brown University; M.A., Ph.D., University of Minnesota-Twin Cities; 1990 –
Matthew Lindaman, Associate Professor; B.A., M.A., University of Northern Iowa; Ph.D., University of Kansas, 2002 –
Matthew Langerhausen, Assistant Professor; B.A., University of California, Santa Cruz; M.A., Binghamton University SUNY; Ph.D., University of Minnesota, 2004 –
Gregory G. Schmidt, Professor; B.A., M.A., Ph.D., University of Illinois-Urbana; 1984 –
Tomás Telésias, Assistant Professor; B.A., Wake Forest University; M.A., Purdue University; Ph.D., Rutgers University, 2007 –

DEGREES AND PROGRAMS
The History Department offers a B.A. major and a B.A. minor in history. In addition, the department administers the B.S. Paralegal Program, advises pre-law students, and directs the Law and Society Program. The department also coordinates the Social Science/History Program for secondary-level social studies teachers.

HISTORY PROGRAM
History programs enable students to study diverse societies and cultures while enhancing their abilities to read critically, think clearly, and write effectively. Both the major and minor programs require students to take courses in the histories of Europe and the United States and to select among courses in the histories of Africa, Asia, and Latin America. Majors and minors take courses at both the introductory and advanced levels, as well as the course in Historical Research Methods and Historiography, which instructs them in methods of historical research, interpretation and writing. As a capstone experience, majors complete their course of study in a two-course Senior Seminar sequence, which requires them to produce an original research project (a Senior Thesis) and enables them to practice, reinforce and expand upon what they learned in the program. History programs, providing a broad range of academic experiences, enhance students’ intellectual skills and understanding of the present, while promoting informed citizenship in a rapidly changing world.

History programs provide reliable preparation for any career prizeing analytical ability, clear thinking, and strong communication skills. The programs also form a solid basis for graduate study in law, history, and other liberal arts fields. The department strongly recommends study of foreign languages to students who are interested in studying history at the graduate level.

PARALEGAL PROGRAM
The Paralegal program enables students to develop both intellectual and professional skills in the law. It is designed to meet the needs of students wishing to enter a career that demands knowledge and experience with legal systems and institutions. This includes careers working for law firms, government agencies, insurance companies, banking institutions, and more. It also serves as an excellent preparation for law school.

The program is an interdisciplinary program within the College of Liberal Arts that develops skills in legal research; writing and investigation; and a deeper understanding of the substance, politics and history of the law. The American Bar Association approves the WSU Paralegal Program. For more information about the Paralegal Program, see page 173.

SECONDARY-LEVEL SOCIAL STUDIES AND HISTORY TEACHING
Students interested in teaching history at the high school and middle level need to complete a broad field program in history and the social sciences in preparation for licensure as a “social studies” teacher. There is no license in Minnesota for teaching only history. The Minnesota Board of Teaching, not Winona State University, defines the scope of teaching licenses. For the broad field program for social studies teachers, refer to B.S. Social Science/History (Teaching) on page 199. The education component of the program, called the Professional Education Sequence, is described in the Education Department section of this catalog (page 90).

LAW AND SOCIETY PROGRAM
The Law and Society Program is an interdisciplinary major that enables students to study law and legal culture from many different disciplinary, conceptual, historical, theoretical, and empirical perspectives. For more information about the Law and Society Program, see page 142.

DEPARTMENT SCHOLARSHIPS AND AWARDS
The History Department offers four scholarships each year. Contact the department office for further information.

• Junior and senior history majors with a strong interest in historical research may apply for the Jederman Scholarship established in the memory of Frederick A. Jederman who taught history at WSU from 1924 to 1964.
• Junior history majors may apply for the Norman and Clare Sobiesk Scholarship, honoring Dr. Norman Sobiesk, who taught history at WSU from 1970 to 2005.
• History and paralegal majors are eligible for the Marvin and Muriel Palecek Scholarship, honoring Dr. Marvin Palecek, who taught history at WSU from 1964 to 1985.
• Paralegal students may apply for the Association of Paralegal Students Alumni Scholarship established by graduates of the Paralegal Program.

MUSEUM INTERNSHIP OPPORTUNITIES
The department offers for-credit internship opportunities in the Winona County Historical Society Museum and other historical museums for students interested in exploring careers in the field of public history. Contact the department office for further information.

PROGRAM RESULTS AND ASSESSMENT
The department believes that the history major should produce the following educational results for students:

Skills
• Enhance students’ ability to critically read and evaluate historical scholarship.
• Develop students’ ability to understand the main lines of historiographic debate concerning a topic and frame new questions.
• Develop students’ ability to engage in historical research focused on primary sources.

* “Additional Requirements” course as defined in Item 3, page 18
- Develop students’ ability to express their ideas clearly in written form.
- Develop students’ ability to express their ideas in oral presentations.
- Develop students’ capacity for independent, critical thought.
- Develop in students the understanding that history is actually an ongoing interpretive debate and not a series of short answers.
- Provide training that is sufficiently rigorous to permit qualified and motivated students to succeed in graduate programs in history.

Knowledge
- Develop students’ understanding of both long-term trends and discrete events in the history of the United States, Europe, and at least two other cultural groups.
- Develop students’ ability to consider the past in terms of both change and continuity.
- Develop students’ ability to identify and explain change over time.
- Develop students’ understanding of the ways in which change affects different groups in different ways.

Values
- Enhance students’ ability to use the skills promoted by the history program in their life and career plans.
- Enhance students’ toleration of diverse peoples and cultures.
- Enhance students’ ability to act as responsible citizens who make informed, reasoned judgments.
- Develop students’ commitment to a life-long search for learning and truth.
- Promote among students a collaborative work and learning ethic.

The department has adopted a plan to use samples of student work to assess the program’s effectiveness and need for change.

ADDITIONAL REQUIREMENTS
Coursework below a grade of “C” in 300- and 400-level courses does not count toward completion of the history major or minor program.

PASS/NO CREDIT (P/NC) COURSES
No history course can be taken on a P/NC basis, with the exceptions of internships and institutes.

TRANSFER STUDENTS
For the B.A. history major, transfer students must complete at least 18 semester hours of WSU history coursework in addition to the Senior Seminar. Transfer coursework completed on a P/NC basis is not accepted for the WSU history major or minor. Transfer students who wish to complete the B.A. history minor must complete at least 12 semester hours in WSU history coursework.

UNIVERSITY STUDIES FLAG REQUIREMENTS
Students may use flag courses to satisfy both University Studies and major requirements. Flag courses will usually be in the student’s major or minor program. The History Department offers the following flag courses in the University Studies Program:

FLAG

Oral
HIST 315 Women in U.S. History (3)
HIST 385 Trial Advocacy (1) (may be repeated up to a maximum of 3 credits)
HIST 398 Topics in History with Oral Communication Emphasis (3)

Math/Critical Analysis
HIST 372 Legal Research and Writing I (3)
HIST 495 Senior Research Seminar I (3)

Writing
HIST 365 American Legal History (3)

B.A. MAJOR - HISTORY (HIST)
48 S.H. (No Minor Required)

REQUIRED COURSES (28 S.H.)
Western Civilization Sequence - HIST (6 S.H.)
Two of the following:
120 Western Civilization to 1500 (3)
121 Western Civilization, 1500 to 1815 (3)
122 Western Civilization, 1815 to Present (3)

Note: Students can substitute HIST 125 (Classical History) for HIST 120 (Western Civilization to 1500)

United States History Sequence - HIST (6 S.H.)
Two of the following:
150 United States History to 1865 (3)
151 United States History Since 1865 (3)
214 The Mississippi River in U.S. History (3)

Developing Societies and Different Cultures Sequence - HIST (6 S.H.)
Two of the following:
123 East Asian Civilization (3)
165 Latin American History (3)
170 African Civilization (3)
220 Introduction to African-American History (3)
235 History of the American Indian (3)

Other Required History Courses - HIST (9 S.H.)
298 Historical Research Methods and Historiography (3)
HIST 495 Senior Research Seminar I (3)
HIST 496 Senior Research Seminar II (3)

ELECTIVES (21 S.H. 300- and 400-level courses)
Electives are subject to an advisor’s approval.
- Students must take at least 3 S.H. in each of the three sequence areas: European, United States, and Developing Societies and Different Cultures.

B.A. MINOR - HISTORY (HIST)
27 S.H.

REQUIRED COURSES (18 S.H.)
Western Civilization Sequence - HIST (6 S.H.)
Two of the following:
120 Western Civilization to 1500 (3)
121 Western Civilization, 1500 to 1815 (3)
122 Western Civilization, 1815 to Present (3)

Note: Students can substitute HIST 125 (Classical History) for HIST 120 (Western Civilization to 1500)

United States Sequence - HIST (6 S.H.)
Two of the following:
150 United States History to 1865 (3)
151 United States History Since 1865 (3)
214 The Mississippi River in U.S. History (3)

Developing Societies and Different Cultures Sequence - HIST (3 S.H.)
One of the following:
123 East Asian Civilization (3)
165 Latin American History (3)
170 African Civilization (3)
220 Introduction to African-American History (3)
235 History of the American Indian (3)

Research Requirement - HIST (3 S.H.)
298 Historical Research Methods and Historiography (3)
ELECTIVES (9 S.H.)
Students must select 9 S.H. in coursework at the 300- and 400- levels with the approval of a History Department advisor.
- The department suggests students consider taking all the elective courses in one sequence area.
- History minors may not count Paralegal Sequence courses (HIST 370, HIST 371, HIST 372, HIST 373, HIST 374, HIST 375, HIST 376, HIST 377, HIST 380, and HIST 383) and the Historical Museum Internship (HIST 390) as electives in the history minor program.

COURSE DESCRIPTIONS (HIST)
101 - Introduction to Law and Society (3 S.H.)
An introduction to interdisciplinary studies as it relates to the law and society major. Students will examine a series of historical and contemporary legal issues from a variety of disciplinary perspectives. This course is required of all law and society majors. Grade only.

120 - Western Civilization to 1500 (3 S.H.)
A survey of Western traditions and institutions from their beginnings in Egypt and Mesopotamia through Greece, Rome and the Middle Ages. Grade only. Offered each semester.

121 - Western Civilization 1500-1815 (3 S.H.)
A survey of the European Renaissance, Protestant Reformation, development of the nation state, the Enlightenment, Commercial and Industrial Revolution, the French Revolution and the Napoleonic era. Grade only. Offered each semester.

122 - Western Civilization 1815 to Present (3 S.H.)
A survey of European traditions and institutions from the fall of Napoleon to the present, stressing the Industrial Revolution, nationalism, imperialism, the rise of totalitarianism, World War II, the Cold War and post-Cold War problems. Grade only. Offered each semester.

123 - East Asian Civilization (3 S.H.)
A survey of China, Korea, and Japan from the pre-modern era to the present. The course analyzes traditional institutions and values and responses to Western imperialism. Topics include Japan's Meiji Restoration and expansionism, the Chinese colonial rule in Korea, traditional China's collapse and revolutionary movements, World War II, the Korean War, China's Communist reconstruction and post-communist economy, the continued partition of the Korean Peninsula, North Korean nuclear ambitions, and Japan's re-emergence as a world power. Grade only.

125 - Classical History (3 S.H.)
The history of Greece from the Homeric time of Plato to the Roman Republic. Grade only.

150 - United States History to 1865 (3 S.H.)
A survey of United States history from prehistoric times to the American Civil War. Special emphasis is placed on political developments and public policy as well as the origins and consequences of slavery and ethnic, cultural, and regional diversity and conflict. Also emphasized is the transformation of social and economic systems. Grade only. Offered each semester.

151 - United States History Since 1865 (3 S.H.)
A survey of United States history since the American Civil War with special emphasis on post-Civil War Reconstruction, late 19th-century economic and social developments and 20th-century reform movements. Additionally, foreign policy and the overseas expansion of the U.S. economy receive attention, as do Cold War and post-Cold War developments. Grade only. Offered each semester.

165 - Latin American History (3 S.H.)
A survey of Latin American history from pre-Columbian times to present including the colonial period, the struggle for independence and the rise of modern Latin American nations. Special emphasis is placed on Argentina, Brazil, Chile and Mexico. Grade only.

170 - African Civilization (3 S.H.)
A survey of African history from prehistoric times to the present. The emphasis is on African social, cultural, and political history. The periods of study include Africa in the ancient world, medieval Africa, the slave trade, the era of European colonialism, the rise of nationalism, and independence movements and contemporary Africa. Grade only.

214 - The Mississippi River in U.S. History (3 S.H.)
A survey of the significance of the Mississippi River in U.S. history. The course emphasizes the role of the river in Native-American life and early European exploration of the Midwest, and the efforts of European powers and the newly created U.S. to control the river. The course also studies the role of the river in economic change, slavery, pre-Civil War immigration, and federal policy. The course will also consider the western theater of the Civil War; the post-war bridging of the river and industrial development along it; and its 20th century flooding, damming, and related controversies. Grade only.

215 - Minnesota History (3 S.H.)
History of the land and people of Minnesota. Emphasis is on social, cultural, economic, and political history of indigenous and immigrant groups in Minnesota during the 19th and 20th centuries. Grade only.

220 - Introduction to African American History (3 S.I.I.)
This course will introduce students to African American history. It examines the full breadth of African American history, starting with Africa in the years before the international slave trade and concluding with the Civil Rights movement and more recent developments in the United States. History majors and minors may count this class among their history electives. Grade only.

235 - History of the American Indian (3 S.H.)
This course traces the history of Native Americans from pre-Columbian times forward to the present day. It emphasizes both the broad, shared experience of natives, regardless of tribal identity, and the more particular experience of individual tribal groups, especially those of the Upper Midwest and Plains regions. Prerequisites: ENG 111 or instructor's permission.
Grade only.

298 - Historical Research Methods and Historiography (3 S.H.)
An introduction to historical research and criticism that exposes students to the sources, resources and techniques of research and evaluation of research as well as divergent historiography traditions. Prerequisites: History major or minor standing, law and society major standing, or social science/history major standing and ENG 111. Limited to 20 students. Instructor's permission required. Grade only.

360 - Introduction to Historical Museums (3 S.H.)
This course provides students with an overview of the field of historical museums and public history. It will examine the history of museums, museum management, collections care, management of historical libraries and archives, fundraising and budgeting, and the development of exhibits and digital programming. It will also survey opportunities available in public history. Required student projects will make use of the resources of the Winona County Historical Society. Prerequisites: HIST 150 and 151. Grade only.

390 - Historical Museum Internship (3-15 S.H.)
Placement in the Winona County Historical Society Museum or other historical museum for the purpose of experience and training in the field of public history. Prerequisite: HIST 360 and permission of the department. Internship credits may not be counted toward completion of the history major or minor.

397 - Topics in History (1-3 S.H.)
In-depth study of current topics in society and the historical profession. With different topics, can be repeated. Grade only.

398 - Topics in History with Oral Communication Emphasis (3 S.H.)
In-depth study of topics of current concern to historians including newer areas of research, emerging themes, and recent interpretive debates. The assignments will include an emphasis on discussion and oral presentations.

428 - The History of Biography (3 S.H.)
This course provides an examination of the history of the literary form known as biography and autobiography. The course examines five different types of biographies that have evolved from the time of Plutarch to the present. Students will examine texts and determine what makes the biography effective (or not) as an illustration of the human condition. Grade only.

495 - Senior Research Seminar I (3 S.H.)
This course, offered in the fall semester, is the first of a two-course sequence in which students develop their Senior Thesis topic that will be intensively researched and written in HIST 496 the following spring semester. While the work in this class builds on all the coursework done by students as History or Law and Society majors at Winona State University, it also develops students' understanding of primary/secondary sources and historiographic thinking as taught in HIST 298. Prerequisite: Major status in history or social science/history or law and society, senior standing, and HIST 298. Students must be carrying no Incompletes at time of registration. Instructor's permission required. Grade only.

496 Senior Research Seminar II (3 S.H.)
The central and overriding focus of this course is the research and writing of the student's Senior Thesis, the topic that students developed in HIST 495 Senior Seminar I. Students, in constructing and writing their thesis, will do research into primary, original source materials. Historiographic analysis and writing is also an important component of the thesis. Prerequisites: History, Law and Society, or Social Science/History Major status, senior standing, HIST 298, HIST 495, and instructor's permission. Grade only.

499 - Independent Readings in History (1-3 S.H.)
The exact nature of this course will be determined by the needs of the student. May be repeated to a maximum of nine credit hours. The student must have written consent of the instructor. Offered each semester.

* "Additional Requirements" course as defined in Item 3, page 18
The course will examine 19th-century traditions, but will focus on the impact and age—to shape the experiences of both men and women in U.S. history. Gender has combined with other social definitions—such as race, ethnicity, activity, and paid and unpaid work. The course also examines the way in which women and the changing nature of the family, sexuality, women’s political activity, and popular images of the West and its inhabitants to the cultural, political, and social diversity of the American West. Traces the development of Western history from first contact to the present. Prerequisites: HIST 150 and HIST 151 or instructor’s permission. Grade only.

484 - Depression, New Deal and War (1929–1945) (3 S.H.) The course explores the Great Depression, which began in 1929 with the economic, social and psychological causes and consequences, Herbert Hoover’s responses to it and FDR’s New Deal Revolution, and the role of the United States in World War II and developments on the home front. Prerequisite: HIST 151 or instructor’s permission. Grade only.

483 - The Progressive Era and the “New Era” Twenties (1901-1929) (3 S.H.) Consideration will be given to the cultural and economic crisis of the 1890s, the progressive impulse, varieties of progressive reform, progressive foreign policy and World War I, postwar adjustment problems and select social phenomena of the Twenties. The course will conclude with study of Herbert Hoover’s economic and political vision. Prerequisite: HIST 151 or instructor’s permission. Grade only.

481 - American Westward Expansion (3 S.H.) Examines the historical West versus the mythical West. Compares stereotypes and popular images of the West and its inhabitants to the cultural, political, and social diversity of the American West. Traces the development of Western history from first contact to the present. Prerequisites: HIST 150 and HIST 151 or instructor’s permission. Grade only.

480 - Gilded Age of America (1877-1900) (3 S.H.) Explores late 19th-century corporate, industrial development and its social, cultural and political consequences. The course pays special attention to both old-fashioned, communitarian counter-attacks and progressive, radical opposition to the new economic order in rural and urban settings. It also explores the mass immigration and new urban political and social structures that economic change generated. The course concludes with consideration of the emergence of the New Empire amidst the Spanish-American War. Prerequisites: HIST 150 or instructor’s permission. Grade only.

479 - The Civil War and Reconstruction (3 S.H.) Explores the culture and society of ante-bellum America, origins of the war, and political and military development of the war. The course will then explore Reconstruction of the Southern political, social and economic orders and the southern counter-revolution of the 1870s. Prerequisite: HIST 150 or instructor’s permission. Grade only.

478 - The Old South (3 S.H.) This course examines many issues, topics, and themes central to the history of the American South (ca. 1800 to 1860). Among the key topics that we look at are the colonial origins, the origins and evolution of planter culture, the nature of yeomen society, the diverse lives of southern women, the economics of slavery, slave life and culture, the politics of slavery and the coming of the Civil War, and the rise and fall of the Confederacy. Grade only.

470 - The Civil War and Reconstruction (3 S.H.) Traces the political, social, intellectual, and cultural development of the United States from the 1820s through the 1840s. Topics include Jacksonian politics, Manifest Destiny and the Mexican War, northern society, the South and slavery, ante-bellum reform movements and Romanticism. Prerequisite: HIST 150 or instructor’s permission. Grade only.

477 - The Age of Jackson (3.5 S.H.) Traces the political, social, intellectual, and cultural development of the United States from the 1820s through the 1840s. Among the key topics that we look at are the colonial origins, the origins and evolution of planter culture, the nature of yeomen society, the diverse lives of southern women, the economics of slavery, slave life and culture, the politics of slavery and the coming of the Civil War, and the rise and fall of the Confederacy. Grade only.

479 - The Civil War and Reconstruction (3 S.H.) Explores the culture and society of ante-bellum America, origins of the war, and political and military development of the war. The course will then explore Reconstruction of the Southern political, social and economic orders and the southern counter-revolution of the 1870s. Prerequisite: HIST 150 or instructor’s permission. Grade only.

470 - The Civil War and Reconstruction (3 S.H.) Explores the culture and society of ante-bellum America, origins of the war, and political and military development of the war. The course will then explore Reconstruction of the Southern political, social and economic orders and the southern counter-revolution of the 1870s. Prerequisite: HIST 150 or instructor’s permission. Grade only.

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485 - Contemporary America 1945-Present (3 S.H.)
The course explores the causes and consequences of the Cold War including McCarthyism, U.S. involvement in the Korean War, and selected post-war problems in foreign policy, mass society and social alienation. It also explores the reforms and social movements of the Great Society era and the development of contemporary conservatism and consumer-oriented neo-liberalism. Prerequisites: HIST 151 or instructor's permission. Grade only.

350 - The History of Attitudes Toward Death (3 S.H.)
The course focuses on the development of basic concepts in American political, religious, philosophical, scientific and social thought, and on their impact on American culture from the colonial period to the present. Prerequisite: HIST 150 or HIST 151 or instructor's permission. Grade only.

486 - American Intellectual and Cultural History (3 S.H.)
The course focuses on the development of basic concepts in American political, religious, philosophical, scientific and social thought, and on their impact on American culture from the colonial period to the present. Prerequisite: HIST 150 or HIST 151 or instructor's permission. Grade only.

European History Sequence

330 - Psycho-history (3 S.H.)
The application of psychoanalytical theory to history. Part of the course will focus on the study of psychoanalytic theory. The rest of the course will focus on the application of theory to history. Grade only.

335 - The Holocaust (3 S.H.)
An historical study and analysis of the Nazi Holocaust from 1933 to 1945.

340 - History of Christianity (3 S.H.)
The development of Christianity from the time of Christ to the present, with emphasis on the interplay between Christianity and the political, economic, social, and cultural structures of various historical ages. Grade only.

350 - The History of Attitudes Toward Death (3 S.H.)
A look at the attitudes toward death in various societies. Prerequisites: ENG 111 or instructor's permission. Grade only.

355 - European Intellectual and Cultural History (3 S.H.)
A study of the history of the development and basic concepts in European religious, philosophical, political, legal, scientific, and social thought and their impact on Western culture. Grade only.

401 - Ancient Rome (3 S.H.)
The rise of Rome from a small republic to empire; the decline and fall of the empire. The Roman contribution to Western civilization. Prerequisite: HIST 120 or instructor's permission. Grade only.

403 - Middle Ages (3 S.H.)
The decline of the Roman Empire, the Germanic kingdoms, the early Christian Church, the development of feudalism and manorialism, the economic recovery of Europe, civilization of the High Middle Ages, rise of the national monarchies. Prerequisite: HIST 120 or instructor's permission. Grade only.

408 - Renaissance (3 S.H.)
The rise of commerce, development of the national monarchies, growth of the Italian city-states, secularization of society, humanism, and art in Italy and in Northern Europe, new scientific discoveries, and expansion of Europe. Prerequisites: HIST 120 and HIST 121 or instructor's permission. Grade only.

409 - Reformation (3 S.H.)
A study of the religious background of 16th-century Europe. The rise of Lutheranism, Calvinism, Anabaptism, and Anglicanism. The Catholic Counter-Reformation. Prerequisite: HIST 120 and HIST 121 or instructor's permission. Grade only.

412 - French Revolution and Napoleon (3 S.H.)
Intellectual, cultural, economic, and political origins of the French Revolution; a decade of revolution; the Napoleon Era; and the legacy of the revolution. Prerequisite: HIST 121 or instructor's permission. Grade only.

417 - Hitler and Nazi Germany (3 S.H.)
Emphasis will be given to the factors which led to Nazism, the personality of Hitler, his drive for world domination, and the Nuremberg trials. Prerequisite: HIST 122 or instructor's permission. Grade only.

421 - Tudor and Stuart England (3 S.H.)
The transition from medieval to modern England, the Reformation, the Age of Elizabeth, and the constitutional and social conflicts of the 17th century. Prerequisite: HIST 121 or instructor's permission. Grade only.

423 - Modern England (3 S.H.)
England in the modern era from the height of imperial power to the present. Grade only.

434 - Soviet Russia (1905-Present) (3 S.H.)
The history of the Soviet Union and Russia during the 20th century. Topics include the 1905 and 1917 Revolutions, the development of the Soviet command economy, Stalin's political purges and cultural revolution, World War II, and the Cold War. The course will also discuss the collapse of Soviet Communism and the Yeltsin era. Prerequisites: HIST 122 and HIST 151 or instructor's permission. Grade only.

440 - World War II (3 S.H.)
An examination of the origins of both the European and Asian phases of the war and of the relationship between political leadership and military strategy. The course will also examine the political, social, and economic developments on the home fronts of the principal belligerents. Prerequisites: HIST 122 and HIST 151 or instructor's permission. Grade only.

Paralegal Sequence

370 - Legal Research and Writing I (3 S.H.)
The student will become acquainted with commonly used terminology, the need for precision in meaning, and how courts interpret documents; and techniques of legal research, the process of judicial review, the extent of legal reporting, and methods of researching court decisions. Students will draft legal briefs and legal memoranda. Prerequisites: Admission to the paralegal major and advanced sophomore standing. Grade only. Offered yearly.

371 - Substantive Law and Ethics I (2 S.H.)
Students will learn the basic rules of contract law, real property law, torts, including workers' compensation, and legal ethics, and will be expected to practice their skills in legal research and writing. Grade only. Offered yearly.

372 - Legal Research and Writing II (3 S.H.)
Students will expand use of research and writing techniques gained in Legal Research and Writing I (HIST 370) by drafting deeds, leases, negotiable instruments, business agreements, correspondence minutes and by-laws, and wills and by researching issues that are relevant to these topics. Students will continue to draft legal briefs and memoranda reflecting their research findings. Prerequisite: HIST 370. Grade only. Offered yearly.

373 - Adversary System: Civil Procedure (2 S.H.)
Basic civil court procedures, such as pleadings; pre-trial discovery; trials and appeals; background of the adversary system; the role of the advocate, judge and jury in the search for justice. Prerequisite: HIST 370. Grade only. Offered yearly.

374 - Evidentiary Rules (2 S.H.)
Acquaints the student with logic of evidentiary rules, value of first-hand evidence, burden of proof, qualification of witnesses, impeachment of witnesses, differentiation between proof and argument, order of proof. Prerequisite: HIST 370. Grade only. Offered yearly.

375 - Substantive Law and Ethics II (3 S.H.)
Students will study the basic elements of probate law, negotiable instruments, bankruptcy, landlord-tenant law with extensive coverage of family law (divorce, separation, and paternity), including the study of motion practice and the Minnesota Rules of Family Court Procedure, pre-trial discovery and conflict resolution techniques as well as ethical issues associated with each. Prerequisite: HIST 372. Grade only. Offered yearly.

376 - Adversary System: Criminal Procedure (2 S.H.)
Supplements HIST 373 (Adversary System: Civil Procedure) and covers criminal pleadings, the grand jury system, criminal pretrial discovery, jury instructions, post-trial sentencing, requirements of a fair hearing, and constitutional legal defenses. Prerequisite: HIST 372. Grade only. Offered yearly.

377 - Practical Legal Investigation Techniques (3 S.H.)
Students will learn the practical techniques used in investigating cases involving traffic, aircraft, personal negligence, employer negligence, product liability, professional malpractice, and criminal investigation. Students also will become acquainted with the technique of working with witnesses. Prerequisites: Admission to the paralegal major. Grade only. Offered yearly.

380 - Paralegal Internship (12 S.H.)
Field placement in a selected organization for the purpose of experience and training as a professional paralegal. Prerequisites: HIST 370, HIST 371, HIST 372, HIST 373, HIST 374, HIST 375, HIST 376 and completion of portfolio. P/NC only.

381 - Paralegal Topics and Issues (3 S.H.)
This course is an approved elective for paralegal majors taken in conjunction with the program-required internship. In addition to selected readings on some aspect of law in contemporary American society, students will engage in a weekly discussion via e-mail with the instructor and fellow students on topics relating to the readings and their internship experience. Students will be evaluated both by the quality of their contribution to these discussions and a final paper that grows out of the readings, internship, and e-mail discussions.

383 - Paralegal Institute (1-3 S.H.)
The Paralegal Institute will cover various specialized topics, which directly relate to areas of the paralegal profession. The specialized institutes will be offered for 1-3 credits and may be repeated to a maximum of 3 credits toward the WSU paralegal degree. P/NC only.

* “Additional Requirements” course as defined in Item 3, page 18