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Home

Publication Date: May 14, 2018

These pages provide a guide to academic requirements, resources and facilities at the University of Wisconsin-Green Bay.

- Students entering in Fall 2018 or Spring 2019 will use this edition **(2018-2019)** to map their academic plans in consultation with faculty and staff advisers.
- Students who are continuing at UW-Green Bay follow the requirements of the annual catalog that was current when they entered. A student may, however, change to a more recent catalog with permission from his or her faculty adviser.

Quick Links:

- Additional campus information can be found on the UW-Green Bay website (http://www.uwgb.edu)
- Please see the UW-Green Bay Mission statement here (http://www.uwgb.edu/univcomm/about-campus/mission.asp)

Graduate Catalog

Dates and Information

This catalog is in effect from May 14, 2018 until it is superseded by a new catalog or if an addendum is noted.

All information contained in this catalog was current as of the date listed above. Some of this information may change through action of the University of Wisconsin System Regents and/or the Wisconsin Legislature. New courses may be added and some listed courses may be altered to remain current with needs.

Current fee and tuition information is available through the Office of the Bursar. Consult the Bursar's website at http://www.uwgb.edu/bursar/ or call the Office of Graduate Studies directly at (920) 465-2123.

Course information for each session is available online in the Schedule of Classes website at http://sis.uwgb.edu/schedule/.

For More Information

Office of Graduate Studies
Cofrin Library 835
University of Wisconsin-Green Bay
2420 Nicolet Dr.
Green Bay, WI 54311-7001
(920) 465-2123

Website: www.uwgb.edu/graduate
E-mail: gradstu@uwgb.edu
Campus information: (920) 465-2000
TDD (Telecommunications Device for the Deaf): (920) 465-2841

Affirmative Action Policy

In compliance with applicable federal and state regulations, the University of Wisconsin-Green Bay is committed to nondiscrimination, equal opportunity, and affirmative action in its educational programs and employment practices. Inquiries concerning the Affirmative Action Policy may be directed to the Human Resources Office, University of Wisconsin-Green Bay, 2420 Nicolet Drive, Green Bay WI 54311-7001; (920) 465-2390.

Accommodations

UW-Green Bay is committed to providing accommodations for eligible individuals with documented disabilities as defined by federal and state law. In accordance with Board of Regents Policy (UWS 22.01), sincerely held religious beliefs shall be reasonably accommodated with respect to all examinations and other academic requirements. Questions about these policies should be directed to the Dean of Students, University of Wisconsin-Green Bay, 2420 Nicolet Drive, Green Bay, WI 54311-7001; (920) 465-2152.

About UW-Green Bay

- Our Mission (http://www.uwgb.edu/univcomm/about-campus/mission.asp)
- At-a-Glance (http://www.uwgb.edu/univcomm/about-campus/profile.htm)
- Degrees and Accreditation (p. 4)
- Institutional Learning Outcomes (http://www.uwgb.edu/provost/accreditation/institutional-learning-outcomes.asp)
- State Authorization for Distance Education (p. 5)
- UW-Green Bay In-Depth (http://www.uwgb.edu/univcomm/about-campus/indepth.asp)

Degrees and Accreditation

Graduate Degrees

- Doctorate of Education (Ed.D.)
- Master of Science (M.S.)
- Master of Social Work (M.S.W.)

Accreditation

Founded in 1965, UW-Green Bay is one of 13 degree-granting institutions in the highly respected, tradition-rich University of Wisconsin System.

The University holds a full 10-year accreditation from the
Higher Learning Commission
230 South La Salle Street, Suite 7-500
Chicago, Illinois 60604-1413

For more information, view the UW-Green Bay affiliated institution profile page (http://www.ncahlc.org/?option=com_directory&Action=ShowBasic&instid=2052) on the Higher Learning Commission website.

Individual programs with accreditations or approvals:

- Art (Art Education, Gallery/Museum Practices, Studio Art); Design Arts, National Association of Schools of Art and Design
- Chemistry, American Chemical Society
- Dietetics component of Human Biology, Academy of Nutrition and Dietetics
- Health Information Management and Technology, Commission on Accreditation for Health Informatics and Information Management
- Music, National Association of Schools of Music
- Nursing, Commission on Collegiate Nursing Education
- Social Work, Council on Social Work Education
- Teacher Education, Wisconsin Department of Public Instruction

Administration

University of Wisconsin System

Raymond W. Cross – President

Board of Regents

- Robert Atwell
- John Robert Behling
- José Delgado
- Tony Evers
- Michael M. Grebe
- Eve Hall
- Tim Higgins
- Mike Jones
- Tracey L. Klein
- Regina Millner
- Janice Mueller
- Drew Petersen
- Ryan L. Ring
- Bryan G. Steil
- S. Mark Tyler
- Gerald Whitburn

University of Wisconsin-Green Bay

- Gary L. Miller – Chancellor
- Gregory Davis – Provost and Vice Chancellor for Academic Affairs
- Sheryl Van Gruensven – Vice Chancellor for Business and Finance

State Authorization for Distance Education

Authorization for Distance Education in States Outside Wisconsin

The University of Wisconsin-Green Bay has nine online degree programs: an Associate Degree (AAS), a Bachelor of Business Administration (BBA), a Bachelor of Science Degree in Nursing (BSN), a Bachelor of Science in Health Information Management Technology (BS-HIMT), a Bachelor of Arts in Integrative Leadership Studies (BA-ILS), a Bachelor of Applied Studies in Integrative Leadership Studies (BAS-ILS), a Master of Science in Data

Science (MS-DS), Master of Science in Sustainable Management (MS-SMGT), and Master of Science Degree in Nursing Leadership and Management in Health Systems (MSN).

Distance Learning Education - State Authorization Reciprocity Agreement

Pursuant to Wis. Stats. Ch. 39.85, et. al, the State of Wisconsin is a member of the State Authorization Reciprocity Agreement (SARA) through the Midwestern Higher Education Compact which regulates the manner in which participating institutions may offer distance learning education to students who reside in other states. The University of Wisconsin-Green Bay is a participating institution in MSARA. The terms and conditions of SARA can be found at http://nc-sara.org/content/sara-policies-and-standards. If a student has a complaint that involves distance learning education offered under the terms and conditions of SARA, the student must file a complaint with the institution first to seek resolution. If no resolution is reached, then the student may file a complaint with the Wisconsin Distance Learning Authorization Board (DLAB) through the following State Authorization Reciprocity Complaint Process at the following link: https://www.wisconsin.edu/student-complaints/ or by email to afgp@uwsa.edu. For purposes of this process, a complaint shall be defined as a formal assertion in writing that the terms of this agreement, or of laws, standards or regulations incorporated by the State Authorization Reciprocity Agreements Policies and Standards have been violated by the institution operating under the terms of SARA.

Additional information can be found at http://www.heab.state.wi.us/DLAB/faq.html.

Authorized
The University is authorized to offer its online degree programs in the following states:

Alabama
Alaska
Arizona
Arkansas
Colorado
Delaware
District of Columbia (Washington)
Georgia
Hawaii
Idaho
Illinois
Indiana
Iowa
Kansas
Louisiana
Maine
Maryland
Michigan
Minnesota
Missouri
Mississippi
Montana
Nebraska
Nevada
New Hampshire
New Mexico
North Carolina
North Dakota
Ohio
Oklahoma
Oregon
Rhode Island
South Carolina
South Dakota
Tennessee
Texas
Utah
Vermont
Virginia
Washington
West Virginia
Wyoming

States Authorized Outside of SARA
The University is authorized to offer its online degree programs in the following states:

California
Connecticut
Florida
Massachusetts
New Jersey
New York
Pennsylvania

Unauthorized
The University is not authorized to offer its online degree programs in the following states:

Kentucky

General Information

- Admissions (http://catalog.uwgb.edu/graduate/general-information/admissions)
  - Admission Standards (http://catalog.uwgb.edu/graduate/general-information/admissions/standards)
  - Admission Process (http://catalog.uwgb.edu/graduate/general-information/admissions/process)
  - Application (http://catalog.uwgb.edu/graduate/general-information/admissions/application)
  - Graduate Assistantships (http://catalog.uwgb.edu/graduate/general-information/admissions/graduate-assistantships)
- Academic Rules and Regulations (p. 7)
- Tuition and Fees (http://catalog.uwgb.edu/graduate/general-information/tuition-fees)
- Applying to Graduate (p. 7)
- Campus Maps (http://www.uwgb.edu/maps)
- Emergency and Parental Notification Policy (p. 8)
- Official University Calendars (http://catalog.uwgb.edu/graduate/general-information/calendars)

Academic Rules and Regulations

A

- Absence and Attendance Policy (http://catalog.uwgb.edu/graduate/general-information/academic-rules-regulations/attendance)
- Academic Standing (http://catalog.uwgb.edu/graduate/general-information/academic-rules-regulations/acad-standing)

C

- Courses and Related Policies (http://catalog.uwgb.edu/graduate/general-information/academic-rules-regulations/course-policy)

D

- Definitions (http://catalog.uwgb.edu/graduate/general-information/academic-rules-regulations/definitions)

G

- Grades and Related Policies (http://catalog.uwgb.edu/graduate/general-information/academic-rules-regulations/grades)

R

- Registration Policies (http://catalog.uwgb.edu/graduate/general-information/academic-rules-regulations/registration)

T

- Transfer Policy (http://catalog.uwgb.edu/graduate/general-information/academic-rules-regulations/transfer-policy)

Applying to Graduate

Students who are close to completing their degree should apply to graduate the semester before they plan to finish.

The suggested timeline to follow is:

- May 1 for Fall or January semester graduation
- December 1 for Spring semester graduation
- February 1 for Summer semester graduation.

Students should use the ***Apply for Graduation*** drop-down link in the Student Information System (SIS) to apply for the degree to be conferred.

The commencement ceremony signup is a separate step, which can be completed by clicking on the link found at the end of the online Graduation Application form. If you miss this step initially, simply go back to SIS later and use the ***Edit Commencement Info*** drop-down link to complete the appropriate fields.

Students may walk in one of two ceremonies.

- December (for fall or January graduates who complete courses in December or in January)
- May (for spring or summer graduates who complete courses in May for spring, or any session in June, July or August in summer).

Degree

The degree awarded and reflected on the diploma will be a Doctorate of Education (Ed.D.) or Master of Science (M.S.) The area of study for either degree is reflected on the academic transcript including Applied Leadership for Teaching & Learning, Data Science, Environmental Science and Policy, First Nations Education, Health and Wellness Management, Management, Nursing Leadership and Management in Health Systems, Social Work, or Sustainable Management

- Degrees are posted to a record (academic transcript) as soon as all grades are awarded, final project or thesis work is finished and all degree requirements are completed.
- Diplomas are printed and mailed approximately four to six weeks after the official semester ends.

Credits Required

A minimum of 30-54 credits, depending upon the chosen program, are required for completion of a UW-Green Bay graduate degree.

Grades

- All courses and assigned studies are graded on a 4.0 scale. A cumulative grade point average of at least 3.0 is required to earn the Ed.D. or M.S. degree.
- Thesis credits are given a grade of either “P” or “NC.” In a student’s final semester, a grade of “PR” can be assigned at the time grades are due if the student has not completed the thesis defense by the end of the semester. This grade is replaced with either a “P” or “NC” grade when the student completes the defense. A passing grade (P) must be achieved in order to graduate.
- Students are expected to maintain a cumulative grade point average of at least 3.0. Students who fail to maintain this average are subject to probation and or suspension as specified in the Graduate Academic Rules and Regulations.

Honors designations are not awarded at the Graduate level.

Time Limit

- Matriculated graduate students must complete all requirements for their graduate degree within five years and with continuous enrollment.
- This time period begins with the first day of the first term of enrollment as a graduate degree-seeking student.

Emergency and Parental Notification Policy

University of Wisconsin-Green Bay faculty, staff and administrators are regularly asked to balance the interests of safety and privacy for individual students. While the Family Educational Rights and Privacy Act (FERPA) generally requires UWGB to ask for written consent or proof that the student is a tax dependent of the parents [and then disclosure may only be made to the parent(s)] before disclosing a student’s personally identifiable information, it also allows colleges and universities to take key steps to maintain campus safety. UWGB may disclose information to appropriate individuals (e.g., parents/guardians, spouses, housing staff, health care personnel, police, etc.) without the student’s consent, where disclosure is in connection with a health or safety emergency and knowledge of such information is necessary to protect the health or safety of the student or other individuals. Disclosures are also allowed among university employees where there is a “need to know,” such as conducting transactions or sharing updates between departments with whom the student interacts.

Health or Safety Emergency

In an emergency, FERPA permits UWGB officials to disclose, without student consent, education records which may include personally identifiable information from those records, to protect the health or safety of students or other individuals. At such times, records and information may be released

to appropriate parties such as law enforcement officials, public health officials, and trained medical personnel. See http://www.ed.gov/legislation/FedRegister/finrule/2008-4/120908a.pdf. [34CFR part 99, 99.36(a)]. This exception to FERPA's general consent rule does not allow for a blanket release of personally identifiable information from a student's educational records. In addition, the Department of Education interprets FERPA to permit institutions to disclose information from education records to parents if a health or safety emergency involves their son or daughter.

Disciplinary Records

While student disciplinary records are protected as education records under FERPA, there are certain circumstances in which disciplinary records may be disclosed without the student's consent. UWGB may disclose to an alleged victim of any crime of violence or non-forcible sex offense, if requested in writing, the final results of a disciplinary proceeding conducted by the institution against the alleged perpetrator of that crime, regardless of whether the institution concluded a violation was committed. UWGB may disclose to anyone — not just the victim — the final results of a disciplinary proceeding, if it determines that the student is an alleged perpetrator of a crime of violence or non-forcible sex offense, and with respect to the allegation made against him or her, the student has committed a violation of the UWGB's rules or policies. See http://www.ed.gov/legislation/FedRegister/finrule/2008-4/120908a.pdf. [34CFR part 99, 99.31(14)(i)(A).

Annual Security Report

The University of Wisconsin-Green Bay's annual security report includes statistics for the previous three years concerning reported crimes that occurred on campus; in certain off-campus buildings or property owned or controlled by UW-Green Bay; and on public property within, or immediately adjacent to and accessible from, the campus. This report also includes institutional policies concerning campus security, such as policies concerning sexual assault, and other matters. Fire safety statistics for student housing are included. You can obtain a copy of this report by contacting the Office of Public Safety or by accessing the following website: http://www.uwgb.edu/public-safety/clery/annual-security-and-fire-safety-report/

Law Enforcement Unit Records

Police investigative reports created and maintained by UWGB Police and Public Safety are not considered education records subject to FERPA. Accordingly, UWGB may disclose information from law enforcement unit records to anyone, including outside law enforcement authorities, without student consent, and once an investigation is complete.

Disclosure to Parents

When a student enters UWGB, including those less than 18 years of age, all rights afforded to parents under FERPA will transfer to the student. However, FERPA also provides ways in which UWGB may share information with parents without the student's consent. For example:

- UWGB may disclose education records to parents if the student is a dependent for income tax purposes. Parents must provide tax returns or other information sufficient to show dependency for tax purposes.
- UWGB may disclose education records to parents if a health or safety concern involves their son or daughter.
- UWGB may inform parents if the student who is under age 21 has violated any law or its policy concerning the use or possession of alcohol or a controlled substance.
- A UWGB official may generally share with a parent, information that is based on that official's personal knowledge or observation of the student (e.g., a faculty or staff member's observation of a student's behavior).

FERPA and Student Health Information

The UWGB Counseling and Health Center may share student medical treatment records with parents and/or others under the health and safety circumstances described above. These records may otherwise be protected by other federal and state medical records privacy laws and can only be shared once a medical release form is signed by the student.

FERPA and Student and Exchange Visitor Information System (SEVIS)

FERPA permits UWGB to comply with information requests from the Department of Homeland Security (DHS) and its Immigration and Customs Enforcement Bureau (ICE) in order to comply with the requirements of SEVIS.

Transfer of Education Records

Finally, FERPA permits UWGB officials to disclose any and all education records, including disciplinary records, to another institution at which the student, seeks or intends to enroll or is currently enrolled.

Contact Information

For further information about FERPA, please contact the UWGB FERPA website at http://www.uwgb.edu/ferpa/.

More information regarding FERPA can be obtained from the:
Family Policy Compliance Office -
U.S. Department of Education

400 Maryland Ave. S.W.
Washington, DC 20202-5920
202-260-3887
http://www.ed.gov/policy/gen/guid/fpco/

Admission Process

The admission process is initiated by submitting the completed application form to the Office of Graduate Studies at www.uwgb.edu/graduate/. The office notifies applicants whose files are incomplete. When the file is complete, official transcripts of previous undergraduate work and any graduate courses are examined and factors affecting either admission to the graduate program or acceptance of transfer credits are noted.

The file is reviewed by the Admissions Committee of the program specified on the application form. The Associate Vice Chancellor for Academic Affairs and Director of Graduate Studies, on the advice of the committee, either admits, provisionally admits, or denies the applicant admission.

If an applicant is denied admission, reasons for the denial will be provided upon request from the applicant to the program chair, along with an explanation of available options. Students denied admission may request reconsideration by writing to the Associate Vice Chancellor for Academic Affairs and Director of Graduate Studies. The request should include a rationale for reconsideration. Applicants who have been denied admission may reapply after the lapse of one semester.

Letter of Admission

A letter of acceptance is sent to each student upon admission to the graduate program. This information appears on the letter:

Student Number

The permanent student number of each applicant is a University-assigned identification number.

Starting Term

Indicates spring or fall term admission.

Type of Entry

Indicates the graduate degree program.

Tuition Status

Indicates resident or nonresident status.

Conditions

Indicates admission status such as provisional admission.

Graduate Special Student (GSP)

Persons holding baccalaureate degrees or higher who wish to enroll in graduate courses at UW-Green Bay but who do not wish to pursue a graduate degree or participate in the graduate program may enroll as a special student.

Graduate credit will be awarded provided the student registers in graduate-level courses as a graduate special student and pays graduate fees. Credits for which neither graduate fees were paid nor graduate credit awarded cannot be retroactively converted to graduate credits. Graduate special students are not eligible for Independent Study or Internships. A graduate special student who decides to pursue a UW-Green Bay graduate degree must submit an application form to enter the degree program. Often the credits earned as a graduate special student may be applied toward the M.S. degree; however, this is not guaranteed.

Graduate Degree Residency Requirement

A minimum of 15 graduate credits must be earned in residence at UW-Green Bay.

Admission with Advanced Standing

All graduate course work completed at UW-Green Bay or at other graduate schools prior to admission to the M.S. degree program is evaluated by the student's adviser or graduate faculty committee. A maximum of 15 credits may be accepted from other institutions. A maximum of 15 credits may be earned as a graduate special student (GSP classification) at UW-Green Bay prior to matriculation into the degree program.

Credit by examination or for prior learning may not be used to meet degree requirements. Prior learning and experience may be applicable to demonstrate competencies for admission or to meet course requisites. More information is available on the Institution Assessment website (http://www.uwgb.edu/oira) about Credit for Prior Learning requirements and options.

Graduates of UW-Green Bay's Professional Development Certificate (PDC) program may receive up to 12 credits through the credit for prior learning process and apply them toward the area of emphasis requirement for the Applied Leadership for Teaching and Learning Master's Degree. Graduates of the PDC program should contact the chairperson of Applied Leadership for Teaching and Learning to obtain details about the credit for prior learning process.

Transfer Credit Policy

Transfer credit is defined as credit earned at an institution other than UW-Green Bay that is to be applied to UW-Green Bay master's degree requirements. Acceptance of transfer credits is determined by a credit review by the Registrar's Office and development of a program plan which includes the credits as part of a coherent program of study. Acceptance of the transfer credits is subject to review and approval by the Associate Provost for Academic Affairs and Director of Graduate Studies. General guidelines for evaluating potential transfer credits are:

- A maximum of 15 semester credits of graduate work may be accepted as transfer credits.
- A letter grade of A or B must be earned in each course transferred.
- The courses must contribute to a coherent program of study.
- The institution granting the credit must be regionally accredited at the master's degree level.
- The credits must be reasonably recent, usually earned within the five years prior to admission.
- Credits earned through extension courses offered or sponsored by universities outside of the state of Wisconsin will be subject to particular scrutiny.
- Credits earned under conditions that make them unacceptable toward a degree at the institution where the credits were earned will not be accepted by UW-Green Bay.

Use of Special Petition

Requirements sometimes may be modified or adapted to take into account a student's special educational or program needs. A request to modify a graduate program academic requirement is submitted to the Associate Provost for Academic Affairs and Director of Graduate Studies on a special petition form. The forms are available online at www.uwgb.edu/graduate/forms. If a change in a program requirement is being requested, the petition should include a statement from the major professor or graduate adviser and the graduate program chair explaining the change. Prior coursework can also be considered and substituted to meet degree requirements via approval of the faculty representative who can approve substitutions.

Active/Inactive Status

Matriculated students are considered inactive if they have not enrolled for four or more consecutive semesters without notifying the Office of Graduate Studies by filing a request to leave. They must be formally readmitted before they can re-enroll in classes. Inactive students required to reapply must meet the admission standards in effect at the time of readmission and are expected to meet degree requirements in effect at that time as well. The application fee does not apply to students seeking readmission after a period of inactivity.

Graduate Programs

D

- Doctorate of Education, EdD (http://catalog.uwgb.edu/graduate/graduate-programs/edd)

M

- Master of Science in Applied Leadership for Teaching and Learning (p. 11)
- Master of Science in Data Science (p. 14)
- Master of Science in Environmental Science and Policy (p. 15)
- Master of Science in Health & Wellness Management (p. 26)
- Master of Science in Management (p. 27)
- Master of Science in Nursing Leadership and Management in Health Systems (p. 29)
- Master of Science in Sustainable Management (p. 32)
- Master of Social Work (p. 33)

Master of Science in Applied Leadership for Teaching and Learning

The University of Wisconsin-Green Bay's Master's Degree in Applied Leadership for Teaching and Learning recognizes the valuable contributions of experienced educators and their ability to engage in professional development within a community of learners. With this understanding as its foundation, the program provides experienced educators with the opportunity to advance their knowledge and skills and be recognized as leaders within their profession.

This 30-credit program includes a 21-credit core requirement as well as a nine-credit area of emphasis. As part of the core requirement, degree candidates will be required to complete a culminating project or thesis related to an educational, school or classroom-based line of inquiry. The core curriculum is based on the National Board of Professional Teaching Standards (NBPTS). The standards that undergird this program are the following:

- Teachers are committed to students and their learning.[1]
- Teachers know the subjects they teach and how to teach those subjects to students.[1]
- Teachers are responsible for managing and monitoring student learning.[1]
- Teachers think systematically about their practice and learn from experience.[1]
- Teachers are members of learning communities.[1]
- Teachers understand system theory and how to initiate and sustain meaningful change.
- Teachers are knowledgeable about historical and contemporary educational reform efforts.

[1] NBPTS standards

The Applied Leadership degree is unique in many respects. It is a truly advanced degree program that does not include teacher certification. It recognizes the expertise of experienced educators working within a community of professional learners. Most importantly, this program prepares professionals to conduct educational-based research and use their knowledge of research to make data-based decisions in order to improve student learning.

The program is designed as a part-time program for educators who are actively employed in educational and professional settings (e.g., PK-12 classroom settings and/or business and industry training). Courses are offered on the weekends and during the summer. Students are admitted to the program each fall semester in cohort groups with a maximum of 20 students per group. This small group size enables close contact with the program's faculty and promotes the development of a sense of community over the course of the program.

Prerequisites

Minimum admission requirements are:

- A baccalaureate degree from an accredited institution.
- Two years of successful teaching experience is preferred, but not required.
- A minimum of a 3.0 grade point average (GPA).

Admission Requirements

Each applicant's prior academic work and experience will be evaluated prior to admission. Applicants are expected to have college-level writing, oral communication and computer skills. Students who show exceptional promise but lack the minimal prerequisites may be admitted provisionally. Applicants are not required to take the GRE for admission.

The application process requires completion of a UW-Green Bay Graduate Application form; letter of interest; names and contact information of three references; and official transcripts (undergraduate and graduate).

Undergraduate-Graduate Dual Enrollment Program (NEW)

Undergraduate students who have enrolled and completed graduate credits through the Professional Program in Education, may apply up to 9 credits to the master's program upon acceptance to the graduate program.

Currently enrolled undergraduate students may refer to the undergraduate catalog for more information. Track requirements include being fully admitted to the Education program with Junior status, holding a cumulative GPA of 3.5 and a faculty recommendation. An admission committee consisting of graduate faculty will review student applications for acceptance before enrollment may occur.

Applications must be submitted by October 1 or March 1 for participation in the following semester. Upon completion of an undergraduate degree, students should request admission to the graduate program, at which point up to 9 graduate credits will be applied to the degree requirements of the program. Graduate students will then adhere to all graduate student expectations and pay full graduate tuition fees. See the undergraduate catalog for a list of courses.

Degree Requirements

The requirements for the Master of Science in Applied Leadership for Teaching and Learning consist of successfully completing a 21-credit core requirement and a nine-credit area of emphasis.

Students must maintain at least a B average to remain in the program and to graduate. A grade of C or better is required for course work to be counted toward graduation.

Students must file an *Official Declaration of Master's Degree* (GR-1 Form) before completing eight graduate credits in the program.

Core Requirement

A 15-credit set of core courses form the foundation for the degree. All students must complete the following:

Code	Title	Credits
Core Courses		15
EDUC 701	Reflective Inquiry	
EDUC 702	Approaches to Educational Inquiry	
EDUC 703	Contemporary Issues and Historical Contexts	
EDUC 704	Applied Educational Leadership	
Inquiry Project or Thesis		6
EDUC 799	Thesis,Thesis or Project	
Area of Emphasis		9
Select at least nine credits		
Total Credits		30

Each individual in the program is required to complete a culminating project or thesis related to an educational, school or classroom-based line of inquiry. Participants engage in activities relevant to the development, interpretation and dissemination of their research under the direct guidance of a graduate faculty adviser. In addition to the required faculty, professionals from outside the University may also serve on thesis committees.

Students usually enroll for two credits of project or thesis support during the summer of their first year. The additional four credits will be distributed over the fall, spring and summer of their second academic year.

Area of Emphasis

Each student selects an area of emphasis consisting of at least nine graduate credits. These credits may be completed at UW-Green Bay or at another institution or setting. It may be possible to establish a personal area of emphasis fitted to the career interests of the student. Such programs must conform to MSAL guidelines and be filed as a Program Plan approved by the student's academic adviser, program chair and the Associate Provost for Academic Affairs and Director of Graduate Studies.

Program requirements change from time to time. New graduate courses are added and others are dropped.

Steps Towards the Degree

1. Applicant is admitted to the graduate program.
2. An *Official Declaration of Master's Degree* (GR-1 Form) is submitted to the Office of Graduate Studies on the student's behalf.
3. After completion of at least 8 credits, the student develops a project proposal. The proposal is reviewed and approved by a project committee. The *Approval of Thesis or Project Proposal* (GR-2 Form) is submitted to the Office of Graduate Studies on the student's behalf.
4. Student may register for project credits (EDUC 799) and work on the project.
5. Student schedules the professional project presentation by filing the *Request for Thesis Defense/Project Presentation* (GR-3 Form) when the project document is nearly complete.
6. The student files an *Application for Graduation* with the Registrar's Office through the Student Information System (SIS). The application must be completed and submitted to the Office of the Registrar prior to November 1 for fall semester graduates and April 1 for spring and summer semester graduates.
7. A professional project presentation takes place. Filing the *Approval of Thesis Defense or Project Presentation* (GR-4 Form) with the Graduate Studies Office indicates satisfactory completion of the professional project and presentation.
8. Graduate receives diploma.

Graduate Committee

It is important for Applied Leadership for Teaching and Learning students to select a thesis/project committee early. The program chair or an adviser for the student's degree program normally assists in this process.

A thesis committee is comprised of at least two faculty members approved by the program chair. One member is requested by the student to act as the major professor or chair of the committee. That person must be a graduate faculty member of the student's degree program. In addition to faculty members, students are encouraged to ask a person from outside of the University to join their committees.

A professional project adviser may be a single faculty member within the student's program.

The thesis committee or project adviser is responsible for supervising the student's program of study and should:

- guide the student in appropriate selection of graduate courses and specialization studies to ensure that the student is aware of all relevant materials necessary to completely understand the chosen field of study;
- determine whether the student has accumulated and demonstrated sufficient ability to engage in analytic processes of problem solving;
- make certain that the student's project is consistent with the degree, confronts the interdisciplinary relationships of the subject area, and focuses on problem solving methods.

If during the student's course of study, he or she wishes to change committee members or adviser, the student must explain why the change is necessary or desirable. If the change is acceptable to both outgoing and incoming professors, the student must notify the Graduate Studies Office in writing.

Faculty

Ashmann, Scott, Associate Professor, Education. B.S., University of Wisconsin-Green Bay; M.S., University of Wisconsin-Milwaukee; Ph.D., Michigan State University.

Fields of interest: the professional development of secondary science teachers, science teacher preparation, leadership issues in mathematics and science education.

Davis, Gregory, Professor, Natural and Applied Sciences (Mathematics). B.S., University of Wisconsin-Green Bay; M.A., Ph.D., Northwestern University.

Fields of interest: dynamical systems, mathematical modeling of ecological systems, cliff swallow-house sparrow species dynamics.

Fencl, Heidi S., Associate Professor, Natural and Applied Sciences (Physics). B.S., Nebraska Wesleyan; M.S., University of Nebraska; Ph.D., Ohio State.

Fields of interest: science education, physics, astrophysics.

Kaufman, Timothy, Associate Professor, Education and Program Chair, Graduate Program in Applied Leadership for Teaching and Learning. B.A., Elmhurst College; M.S., Southern Illinois University; Ph.D., Loyola University.

Fields of interest: literacy, school reform, serving the needs of "at-risk" and learners with learning disabilities.

Kiehn, Mark, Associate Professor, Education. B.A., Adams State College; M.M.E., Ph.D., University of Colorado-Boulder.

Fields of interest: creative thinking in the classroom, arts education for exceptional learners, classroom assessment, school curriculum implementation/ educational reform.

Leary, J P, Assistant Professor, Humanistic Studies - First Nation Studies. B.A., University of Wisconsin-Eau Claire; M.A., University of Oklahoma;, Ph.D., University of Wisconsin-Madison.

Fields of Interest: indigenous education, curriculum theory and policy, history of educaiton, social studies, professional development.

Lor, Pao, Associate Professor, Education. B.S.E., M.S., University of Wisconsin-Oshkosh; Ph.D., University of Wisconsin-Madison.

Fields of interest: educational policy and analysis, teacher preparation programs, community relations, curriculum and supervision.

Poupart, Lisa, Associate Professor, Humanistic Studies-First Nations Studies. B.S., M.A., University of Wisconsin-Milwaukee; Ph.D., Arizona State.

Fields of interest: First Nations teaching and learning including Elder epistemology; decolonization and indigenous education, First Nations Studies in K-12 curriculum, historic trauma and generational healing.

Master of Science in Data Science

The University of Wisconsin - Green Bay, the University of Wisconsin – Eau Claire, the University of Wisconsin - La Crosse, the University of Wisconsin – Oshkosh, the University of Wisconsin – Stevens Point, and the University of Wisconsin – Superior in collaboration with the University of Wisconsin – Extension are offering a Master's of Science in Data Science. This master's program is entirely online and will teach you how to harness the power of big data using the latest tools and analytical methods. The program focuses on how to clean, organize, analyze, and interpret structured and unstructured data, deriving knowledge and communicating your discoveries clearly to stakeholders. It is a 12-course, 36 credit program and is taught by expert faculty.

This program will prepare you to how to realize value from big data and make better decisions. The insight gained could help organizations public, private or non-profit in enhancing customer engagement, optimizing operations, identifying and preventing fraud, and generating new sources of revenue among others. The program offerings are relevant for virtually any industry- health care, retail, marketing, manufacturing, transportation, communication, education, insurance, finance, security, law enforcement, and more.

Code	Title	Credits
Core Curriculum		
DS 700	Foundations of Data Science	3
DS 705	Statistical Methods	3
DS 710	Programming for Data Science	3
DS 715	Data Warehousing	3
DS 730	Big Data: High-Performance Computing	3
DS 735	Communicating About Data	3
DS 740	Data Mining	3
DS 745	Visualization and Unstructured Data Analysis	3
DS 760	Ethics of Data Science	3
DS 775	Prescriptive Analytics	3
DS 780	Data Science and Strategic Decision Making	3
DS 785	Capstone	3
Total Credits		36

Master of Science in Environmental Science and Policy

Program Overview

The University of Wisconsin-Green Bay's Environmental Science and Policy (ES&P) program provides outstanding professional training for students with interest in the scientific and/or public policy aspects of today's environmental challenges. The curriculum prepares graduates for positions in scientific, technical, and administrative organizations and agencies. The program's core focuses on the identification and analysis of environmental issues, and on developing innovative interdisciplinary approaches and solutions to problems. Students pursuing the M.S. should first seek to select one of three Degree Options that best matches their current needs and future professional ambitions: **Thesis**, **Internship**, or **Course-Based**.

The ES&P program also offers four Areas of Emphasis within each Degree Option: **Ecosystems Studies**, **Environmental Technology** and **Analysis,** Environmental Policy and Administration, and a **Personal Program of Study**. While all Areas of Emphasis seek to integrate the sciences with policy and administration, students choose to specialize in one area depending on career interests. Each emphasis has a practical orientation that engages the student in real-world problems and issues, emphasizing still sets necessary for solving critical environmental challenges. Although one emphasis option is the Personal Program of Study, our M.S. degree allows for and encourages students to design their own program around a core of required courses, regardless of their Area of Emphasis.

Our Master of Science degree fits the needs of both part-time and full-time students, and may be completed following either a thesis or non-thesis (Internship or Course-Based) degree plan. Most graduate courses in the program are offered at other times convenient for working individuals. Also, students benefit from the mix of perspectives and experiences held by the various participants in a course: Full-time students gain from the practical knowledge of working professionals, who are in turn challenged by the current theoretical knowledge of those with recent undergraduate degrees. Students like our small class sizes and the close association with faculty. Full-time students with all prerequisites often complete the program in two years, while part-time students usually take three to five.

Our program features faculty who are widely published in the professional literature, active in externally funded research, and committed to excellence in teaching. The faculty associated with the program firmly believe that environmental policy must be based on good science, but also that environmental science is ineffective unless it can be translated into sound policy decisions. The UW-Green Bay Environmental Science and Policy Graduate Program is closely connected with national, state, and local agencies, providing students with opportunities to become engaged with, and contribute to, meaningful scientific research and policy formulation. Indeed, many graduates of the program are now professionals in these agencies. The University offers modern and well-equipped facilities that support research and study in the areas of environmental science and policy. Office and laboratory computers throughout campus enable access to advanced geographic information system (GIS), statistical, and modeling software.

Field sites available for research include five University-managed natural areas, and a permanent UW-Green Bay forest research site in northern Wisconsin (Wabikon Forest Dynamics Plot), which is managed by the U.S. Forest Service as part of the Smithsonian Institution's Global Earth Observatory Network. UW-Green Bay researchers have established successful ongoing collaborations with regional governmental agencies and conservation organizations, including the U.S. Fish and Wildlife Service, U.S. Forest Service, U.S. National Park Service, U.S. Environmental Protection Agency, Wisconsin Department of Natural Resources, U.S. Department of Agriculture, U.S. Geological Survey, The Nature Conservancy, and NEW Water (formerly Green Bay Metropolitan Sewerage District), as well as local governments and regional businesses and industries.

The UW-Green Bay Cofrin Library collection is strong in all areas of environmental studies, but particularly so in environmental policy and administration. The library provides easy access to many pertinent journals for ES&P students, and interlibrary loans are readily accessible from the broader UW System when sources are not available locally.

Switching Between Thesis, Internship and Course-Based Options

Students wishing to switch between Thesis, Internship, and Course-Based Options must amend their GR forms accordingly and, pending committee approval, can apply earned credits interchangeably toward degree completion. However, all course substitutions are subject to the approval of the Graduate Committee, Environmental Science & Policy (ES&P) Graduate Program Chair, Associate Provost for Academic Affairs, and Director of Graduate Studies. All other requirements must meet the specifications highlighted above under the "Thesis-Option", "Internship-Option" or “Course-Based Option” catalog sections.

Integrated Bachelor/Master Program

Credits earned from undergraduate courses cannot be directly applied toward the graduate degree. However, the UW-Green Bay Integrated Bachelor/Master Program in Environmental Science and Policy provides a mechanism for exceptional students to begin working on their Master’s Degree during their last year of completing their Bachelor's degree in either Environmental Science or Environmental Policy and Planning. The goal of the Integrated Program is to encourage high performing students in the above undergraduate programs to continue their graduate studies at UW-Green Bay. Undergraduate students are encouraged to discuss the Integrated Program with the Environmental Science & Policy Program Chair (or other program advisors) before achieving senior status.

Admission Process and Requirements

Students wishing to enter the Environmental Science and Policy (ES&P) graduate program may apply at any time. However, applications are reviewed by the Admissions Committee once in the fall and once in the spring semester only. Priorities for research and teaching assistantships are given to students who apply by October 1 (for enrollment the following spring semester), and March 1 (for fall semester enrollment). All students are encouraged to gain a better understanding of the culture and educational environment at UW-Green Bay by visiting the campus. Graduate School staff can help arrange meetings with potential advisors, attend a graduate class, meet with other graduate students, and tour our facilities.

***Minimum admission requirements for the UW-Green Bay Environmental Science & Policy Master’s Degree Program*:**

- A baccalaureate degree from an accredited institution.
- A 3.0 GPA (on a 4.0 scale) for the final two years of study.
- Completion of an undergraduate introductory statistics course, or equivalent.
- Two letters of recommendation:
  - *Preferred*: One letter from a faculty advisor, and one from an employer.
  - *Alternate option*: Two letters from faculty advisors.
- A 200-300 word Statement of Interest in the program. In a cover letter, applicants may describe their qualifications, scientific interests, research experiences, and potential faculty advisors (if seeking the Thesis Option)
- Selection of desired Degree Option (Thesis, Internship, or Course-Based)
  - Students interested in the Thesis Option need to speak with and identify in the Statement of Interest an advisor willing to supervise the thesis *at the time of application.*
  - Students interested in the Internship and Course-Based Options must contact the Chair of the ES&P Graduate Program regarding internship opportunities, expectations, and program details *at the time of application*.
- Graduate Record Examination scores are **NOT** required for application to the Environmental Science and Policy Graduate Program.
- As a proof of English proficiency, international students are required to submit a minimum TOEFL iBT score of 79, or a minimum IELTS score of 6.0 overall band (from a test date within two years). TOEFL scores must be submitted electronically via ETS. IELTS scores can be submitted electronically or by paper

Note that each Area of Emphasis (Ecosystems Studies, Environmental Technology and Analysis, Public Policy and Administration, and the Personal Program of Study) requires different skills and preparation. Therefore, prerequisite courses appropriate to the Area of Emphasis are required for admission.

Each applicant’s prior academic background is evaluated by the program’s Admissions Committee. Applicants who do not meet the minimum requirements may be admitted if their academic record and letters of reference indicate potential for successful completion of the program. However, these students will likely be admitted on a “provisional” basis, and could have additional requirements as part of their academic plan in order to compensate for missing course or program prerequisites. Individuals with a bachelor’s degree who wish to enroll in graduate courses without pursuing a degree may enroll as special students. Undergraduate students currently enrolled in UWGB Environmental Science & Policy programs may earn undergraduate and graduate credit concurrently (see the Integrated Program below).

The Thesis Option is designed for students who wish to pursue advanced research opportunities in the broad realm of environmental science and policy or related disciplines. This option should be considered by students whose career goals will ultimately require formal and dedicated research training from a hypothesis-driven framework. Students will consult with their Major Advisor and Thesis Committee to determine a specific Area of Emphasis once the Thesis Option has been selected. Note students are initially admitted to the Environmental Science & Policy (ES&P) Program under the Course-Based Degree Option unless an advisor from the ES&P graduate faculty has agreed to supervise the student's thesis. Students are encouraged to

contact the ES&P Program Chair to assist in this process. Internship and Course-Based Option students may switch to the Thesis Option if a project develops through on-campus interactions and an ES&P graduate faculty member agrees to advise that student.

Thesis Option (31 total credits)

All Thesis Option students accepted into the Environmental Science and Policy program are required to successfully complete the following set of core courses. Those who lack appropriate prerequisites may need to take additional courses to strengthen their background before taking a core class. Electives counting toward the degree are selected from the student's Area of Emphasis for a minimum of 16 credits. Selected elective courses must be unduplicated from the program's Core Requirements, and are in addition to thesis credits (see Registration for Thesis Credit below). Thesis students should enroll for a minimum of six thesis credits (ENV S&P 799) that coincide with major research activities, including writing and thesis defense preparation.

General Core Requirements (9 credits)

All students matriculated into the Environmental Science and Policy program are required to successfully complete the following set of required core courses (9 credits).

Code	Title	Credits
General Core Courses		1
ENV S&P 701	Perspectives in Environmental Science and Policy	
Choose one of the following repeatable courses (2 credits)		2
ENV S&P 715	Seminar in Ecology and Evolution	
or ENV S&P 795	Special Topics	
Environmental Science		3
ENV S&P 740	Ecology and Management of Ecosystems	
or ENV S&P 767	Environmental Technology and Analysis	
Public Policy		3
ENV S&P 713	Environmental & Natural Resource Economics	
or ENV S&P 752	Environmental Policy and Administration	
Total Credits		9

Code	Title	Credits
Thesis/Research Credits		6
ENV S&P 799	Thesis	

Completion of an Elective Area of Emphasis:

- Ecosystems Studies (http://catalog.uwgb.edu/graduate/graduate-programs/environmental-science-policy-ms/emphasis/ecosys)
- Environmental Policy and Administration (http://catalog.uwgb.edu/graduate/graduate-programs/environmental-science-policy-ms/emphasis/pol-adm)
- Environmental Technology and Analysis (http://catalog.uwgb.edu/graduate/graduate-programs/environmental-science-policy-ms/emphasis/envtech)
- Personal Program of Study (http://catalog.uwgb.edu/graduate/graduate-programs/environmental-science-policy-ms/emphasis/personal)

TOTAL CREDITS = 31

Selection of the Thesis Committee

Thesis Option students should select a Thesis Committee as early as possible (i.e., during the first or second semester). The Committee is responsible for supervising the student's program of study and should: 1) guide the student in selection of elective courses, 2) determine whether the student has developed and implemented a research project with the necessary rigor, and 3) make certain that the student's project is consistent with the degree and interdisciplinary context of the subject area. Thesis Committees must have at least three members, with at least two faculty from accredited universities, and where the Major Advisor is an ES&P graduate faculty member. Committee members from outside an accredited university should have a PhD or M.S. with significant work experience. Any exception to these guidelines must be approved by the ES&P Program Chair. If, during the student's course of study, he or she wishes to change committee members or advisors, the student must explain why the change is necessary or desirable. If the change is acceptable to both outgoing and incoming Committee members, the student must notify the Office of Graduate Studies in writing.

Thesis Proposal

Thesis Option students are expected to develop a thesis proposal with the committee's assistance. The thesis proposal is a formal document that provides an overview of the planned study. It must include an explanation of the research problem, issue, or situation to be addressed, its relevance or application, and the methods and resources that will be used in completing the project. On or before the successful completion of twenty-one credits of course work, the student prepares the proposal, using the *Guidelines for Preparing the Proposal* provided by the Office of Graduate Studies. A copy of the *Guidelines* and *Approval of Thesis or Project Proposal* (GR-2 Form) are available on the Office of Graduate Studies website www.uwgb.edu/

graduate. The thesis proposal must be successfully defended to the graduate committee in both oral and written formats. Once approved, a copy of the approved proposal and the signed GR-2 Form are sent to the Associate Provost for Academic Affairs/Director of Graduate Studies for final approval and inclusion in the student's official file. Approval of the thesis proposal places the student into candidacy for the degree.

Registration for Thesis Credit

Thesis Option students must take a minimum of 6 thesis credits in addition to the program core and electives. Students may only register for thesis credits with an approved proposal on file. Enrollment for thesis credits may be for one to six credits per term and may be spread over several terms as appropriate. *A student must be registered for a minimum of one thesis credit or the thesis continuation course (ES&P 693) during the term in which a thesis defense is scheduled.*

Thesis Defense

The thesis defense is an open event attended by the candidate's graduate committee and other interested individuals. The defense helps the committee to judge whether the student has adequately understood and seriously attempted to solve a significant problem. To schedule the thesis defense, the student must file the *Request for Thesis Defense/Project Presentation* (GR-3 Form) with the Office of Graduate Studies at least one week in advance of the proposed date. Prior to the thesis defense, the Office of Graduate Studies will provide *Approval of Thesis Defense or Project Presentation* (GR-4 Form) to the major professor. After a satisfactory defense, the major professor and committee members sign the form and return it to the Office of Graduate Studies. A dissenting signature must be accompanied by an explanation from the dissenting member. A candidate is considered to have passed his or her thesis defense only after all issues have been resolved and the completed GR-4 Form is returned to the Office of Graduate Studies.

Thesis Document Preparation

The thesis is a formal document and must be prepared to conform to UW-Green Bay library requirements and graduate program standards. In preparing the thesis document, students should carefully follow the *Style and Format Requirements for the Master of Science Thesis*. Copies of the guidelines and a copy of the completed *Approval of Thesis or Project Proposal* (GR-2 Form) are mailed to students along with notice of proposal approval. It is the student's responsibility to prepare and present the final document in an acceptable format. Several writers' guides and style manuals are available for guidance.

Thesis Document Deposition

1. Upon satisfactory completion of the thesis defense, the candidate is required to supply the Office of Graduate Studies with one bound copy of his or her thesis. A digital copy will also be archived in the Cofrin Library and posted to the library website. A properly formatted title page and one signed Grant of Permission and Copyright form is required for archiving purposes.
2. The Office of Graduate Studies will review the thesis for style and formatting. The Director of Graduate Studies will sign the title page or return the document for further revisions.
3. When the thesis is approved, the Office of Graduate Studies will arrange for the manuscript to be printed and bound. The candidate is responsible for thesis printing, binding and shipping costs. These fees must be paid (by check or cash) to the Office of Graduate Studies prior to binding. If the candidate wishes, additional bound copies can be ordered at the same per copy cost.
4. Diplomas are not awarded until all degree requirements are met. This includes certification by the Director of Graduate Studies that the thesis conforms to all UW-Green Bay library requirements, that the graduate program standard thesis defense has taken place and that the candidate has paid his or her thesis related fees.
5. Upon satisfactory complete of the thesis defense, the major professor files the Approval of Thesis Defense or Project Presentation (GR-4 Form) with the Office of Graduate Studies. The student then has 20 calendar days after the last day of final exams to submit their final thesis/project document to the Office of Graduate Studies and 42 calendar days after the last day of final exams for all other graduation requirements to be completed and verified.

Review of Steps Toward the Degree

- The candidate is admitted to the ES&P graduate program.
- The student submits an Official Declaration of Master's Degree (GR-1 Form) to the Office of Graduate Studies no later than the end of the semester in which the first six graduate credits are completed. This confirms the student's area of emphasis in the program, their intention to pursue a thesis program plan, and pairs a student with a major professor/thesis adviser. Thesis students should begin to develop a thesis committee and thesis proposal in collaboration with their major professor.
- On or before the successful completion of twenty-one credits of course work, the student completes a thesis proposal. The proposal is reviewed by the thesis committee and, if approved, submitted to the Office of Graduate Studies, by the major professor, using the Approval of Thesis or Project Proposal (GR-2 Form).
- The student may then register for thesis credit (ENV S&P 799) and work on the thesis project.
- When the project and thesis document is nearly complete, the student schedules the thesis defense by completing the Request for Thesis Defense/ Project Presentation (GR-3 Form). For graduation in the fall and spring semesters, the thesis defense must be held before the last day of final exams in a given semester.
- The student files an Application for Graduation with the Registrar's Office through the Student Information System (SIS) prior to November 1 for fall semester graduates, and April 1 for spring and summer semester graduates.

- The scheduled thesis defense takes place. Upon satisfactory completion of the thesis defense, the major professor files the Approval of Thesis Defense or Project Presentation (GR-4 Form) with the Office of Graduate Studies. The student then has 20 calendar days after the last day of final exams to submit their final thesis/project document to the Office of Graduate Studies and 42 calendar days after the last day of final exams for all other graduation requirements to be completed and verified. The final format of the thesis report is reviewed through the Office of Graduate Studies. Student submits to the Office of Graduate Studies the required number of thesis copies for final approval and deposition in University library.
- Degree is awarded and graduate receives diploma.

The Internship-Based Option M.S. is designed for students whose career goals require postgraduate education and conceptual training in environmental science and policy and related fields, but not formal research experience or training. The Internship Option is appropriate for students seeking applied experience in the field or laboratory, generally outside of the university setting. Examples of students that should consider this option include those seeking to blend environmental science and policy with sustainable business applications, outreach and education, policy development and environmental regulation, promotion of clinical environmental health and regulation of environmental contaminants, environmental consulting, invasive species management, ecosystem restoration or landscape design.

Internship Option graduate students are expected to locate, pursue and complete an internship in a setting most aligned with their future career goals. The internship must incorporate a significant independent project to complement coursework. Examples of hosts for internship-based projects include local business, federal agencies (Fish and Wildlife Service, Geological Survey) or non-profit organizations. Internship Option students are encouraged to explore various internship opportunities, internship partners, and expected project outcomes with the ES&P Graduate Program Chair.

Internship Option (34 total credits)

Internship Option students accepted into the Environmental Science and Policy program are required to successfully complete the following set of core courses. Those who lack appropriate prerequisites may need to take additional courses to strengthen their background before taking a core class. Electives counting toward the degree can be selected from the selected area of emphasis (e.g., Ecosystem Studies, Environmental Technology and Analysis) for a minimum of 16 credits. Selected elective courses must be unduplicated from the program's Core Requirements and in addition to internship credits. Internship Option students should enroll for a minimum of 6 internship credits that coincide with internship activities. Successful completion of the internship, committee approval of achieved internship objectives and outcomes, and a successful public oral defense of the internship experience will result in the awarding of the Master's of Science degree.

General Core Requirements (9 credits)

All students matriculated into the Environmental Science and Policy program are required to successfully complete the following set of required core courses (9 credits).

Code	Title	Credits
General Core Courses		1
ENV S&P 701	Perspectives in Environmental Science and Policy	
Choose one of the following repeatable courses (2 credits)		2
ENV S&P 715	Seminar in Ecology and Evolution	
or ENV S&P 795	Special Topics	
Environmental Science		3
ENV S&P 740	Ecology and Management of Ecosystems	
or ENV S&P 767	Environmental Technology and Analysis	
Public Policy		3
ENV S&P 713	Environmental & Natural Resource Economics	
or ENV S&P 752	Environmental Policy and Administration	
Total Credits		9

Code	Title	Credits
Internship Option		9
ENV S&P 797	Internship	
ENV S&P 763	Capstone in Environmental Science and Policy	

Completion of an Elective Area of Emphasis:

- Ecosystems Studies (http://catalog.uwgb.edu/graduate/graduate-programs/environmental-science-policy-ms/emphasis/ecosys)
- Environmental Policy and Administration (http://catalog.uwgb.edu/graduate/graduate-programs/environmental-science-policy-ms/emphasis/pol-adm)
- Environmental Technology and Analysis (http://catalog.uwgb.edu/graduate/graduate-programs/environmental-science-policy-ms/emphasis/envtech)
- Personal Program of Study (http://catalog.uwgb.edu/graduate/graduate-programs/environmental-science-policy-ms/emphasis/personal)

TOTAL CREDITS = 34

Selection of the Internship Committee

Environmental Science and Policy Internship Option students should select a committee during the first or second semester. The internship committee is responsible for supervising the student's program of study and should: 1) guide the student in selection of courses, 2) determine whether the student has selected or completed an internship with the appropriate rigor, and 3) make certain that the student's internship is consistent with the degree and confronts the interdisciplinary dimensions of the subject area. The Internship Option committee is expected to consist of three individuals: the main internship supervisor (external or internal to UWGB), one member of the ES&P graduate faculty, and the Chair of the ES&P Graduate Program.

Internship Proposal

Internship-Based Option students are expected to develop a proposal with the committee's assistance. The internship proposal is a formal document that provides an overview of the planned project. It must include an explanation of the problem, issue, or situation to be addressed, its relevance or application, and the methods and resources that will be used in completing the project. On or before the successful completion of twenty-one credits of course work, the student prepares the proposal, using the *Guidelines for Preparing the Proposal* provided by the Office of Graduate Studies. A copy of the *Guidelines* and *Approval of Thesis or Project Proposal* (GR-2 Form) are available on the Office of Graduate Studies website www.uwgb.edu/graduate. The internship proposal must be successfully defended to the graduate committee in both oral and written formats. Once approved, a copy of the approved proposal and the signed GR-2 Form are sent to the Associate Provost for Academic Affairs/Director of Graduate Studies for final approval and inclusion in the student's official file. Approval of the thesis proposal places the student into candidacy for the degree.

Registration for Internship Credit

Internship Option students must take a minimum of six internship credits in addition to the program core and electives. Students may only register for internship credits with an approved project proposal on file. Ideally, the duration of an internship should be part-time (10-20 hours per week) for a full academic calendar year or full time (30-40 hours per week) during a single summer semester. Enrollment for internship credits should not exceed three credits per semester during the regular academic year or six credits for a summer long internship.

Internship Project Defense

Successful completion of the Internship Option M.S. involves two essential requirements. First, the student must satisfactorily complete a public-presentation of the internship project to be attended by the candidate's graduate committee and other interested individuals. The defense permits the committee to ascertain whether the student has adequately processed course requirements and has meaningfully achieved the goals of the project-based internship. To schedule the internship defense, the student must file the *Request for Thesis Defense/Project Presentation* (GR-3 Form) with the Office of Graduate Studies at least one week in advance of the proposed date. The internship project defense should be scheduled during one of the academic terms unless other specific arrangements are acceptable to all parties. Prior to the defense, the Office of Graduate Studies will provide *Approval of Thesis Defense or Project Presentation* (GR-4 Form) to the major professor. Second, students must complete a final report to be reviewed by the committee before the defense. After a satisfactory defense of both oral and written materials, the major professor and committee members sign the form and return it to the Office of Graduate Studies. A dissenting signature must be accompanied by an explanation from the dissenting member. A candidate is considered to have passed his or her thesis defense only after all issues have been resolved and the completed GR-4 Form is returned to the Office of Graduate Studies.

Internship Document Preparation

The internship project (i.e., technical report, website, multimedia tool, public outreach and educational documents, data analysis, etc.) should be converted into a formal document that conforms with UW-Green Bay library requirements and graduate program standards. In preparing the internship project document, students should attempt to follow the *Style and Format Requirements for the Master's of Science Thesis*. Copies of the guidelines and a copy of the completed *Approval of Thesis or Project Proposal* (GR-2 Form) are mailed to students along with notice of proposal approval. The student is responsible for working with the Office of Graduate Studies to prepare and present the final document in an acceptable format. Several writers' guides and style manuals are commercially available. Students should also carefully follow the guidelines provided by the internship committee.

Internship Document Deposition

1. Upon satisfactory completion of the internship project defense, the candidate is required to supply two copies of his or her internship document, including two copies of any audio/visual components and one additional copy of a title page and abstract, to the Office of Graduate Studies. After the major professor signs the approved document, the Director of Graduate Studies reviews and signs the internship document or returns it for further revision. Two copies of the final document are forwarded with a binding fee ($12 per copy, but subject to change), collected from the student, to the UW-Green Bay library as a permanent record of the student's scholarly or creative activity. If the candidate wishes, additional copies provided by the student may be bound at the same per copy fee, payable to UW-Green Bay.
2. Diplomas are not awarded until all degree requirements are met. This includes certification by the Director of Graduate Studies that the successfully defended internship document conforms to all UW-Green Bay library requirements and graduate program standards.. Upon satisfactory completion of the thesis defense, the major professor files the *Approval of Thesis Defense or Project Presentation* (GR-4 Form) with the Office of Graduate Studies. The student then has 20 calendar days after the last day of final exams to submit their final thesis/project document to the Office of Graduate Studies and 42 calendar days after the last day of final exams for all other graduation requirements to be completed and verified.

3. The final format of the internship report is reviewed through the Office of Graduate Studies. The student submits to the Office of Graduate Studies the required number of thesis copies for final approval and deposition in University library.
4. Degree is awarded and graduate receives diploma.

Review of Steps Toward the Degree

- The candidate is admitted to the ES&P graduate program.
- The student submits an Official Declaration of Master's Degree (GR-1 Form) to the Office of Graduate Studies no later than the end of the semester in which the first six graduate credits are completed. This confirms the student's area of emphasis and their intention to pursue the internship option.
- Internship option students should begin to identify potential internship or project opportunities.
- Once an internship project has been identified, students should begin formulating their official internship project proposal, culminating in the submission of the Approval of Thesis or Project Proposal (GR-2) Form to the Office of Graduate Studies.
- During the semester(s) in which the internship and project are completed, students should enroll for a minimum of 6 credits of ENV S&P 797 Internship (3 credits per regular semester or 6 credits for a summer long internship).
- Over the course of the internship, students should prepare and finalize their project outcomes and documents, and develop an oral presentation/ defense delivered to the committee and public.
- Degree requirements are fulfilled with submission of an Approval of Thesis Defense or Project Presentation (GR-4 Form) to the Office of Graduate Studies. The student then has 42 calendar days after the last day of final exams to 1) submit their Approval of Thesis Defense or Project Presentation (GR-4 Form) to the Office of Graduate Studies and 2) complete and verify all other graduation requirements.
- The student files an Application for Graduation with the Registrar's Office through the Student Information System (SIS) prior to November 1 for fall semester graduates, and April 1 for spring and summer semester graduates. Upon completion of this step, the degree is awarded and graduate receives diploma.

The Course-Based Option is designed to be the most flexible pathway towards earning the Environmental Science and Policy Master's Degree. This option is particularly appropriate for professionals who are already employed in primary or secondary education (e.g., high school biology) or applied environmental science or public policy fields. A Master's degree obtained via the Course-Based Option will be particularly valuable for individuals interested in teaching opportunities at the community college level; development of advanced skills in environmental consulting, geographic information technology, environmental data analysis, etc.; and a deeper understanding of environmental policy and policy implementation. Course-Based Option students may further wish to build a more competitive foundation for pursuing related careers in business sustainability, ecological restoration and various medical fields.

Course-Based Option (37 total credits)

Course-Based students must fulfill the following core requirements. Electives counting toward the degree may be selected from any area of emphasis for a minimum of 17 credits. Course-Based students may also seek to further personalize their degree in the areas of education, business, engineering or mathematics. Thus, Course-Based students may substitute a maximum of 6 elective credits (i.e., two 3 credit classes) from other University of Wisconsin – Green Bay campus programs. Elective course substitutions must be approved by the ES&P Graduate Chair and the courses cannot be duplicated from the program's Core Requirement. There is no formal defense or written exam required to earn the Master's of Science degree under this option. However, Course-Based students are encouraged to seek elective credits through independent research or internship opportunities with graduate faculty.

General Core Requirements (9 credits)

All students matriculated into the Environmental Science and Policy program are required to successfully complete the following set of required core courses (9 credits).

Code	Title	Credits
General Core Courses		1
ENV S&P 701	Perspectives in Environmental Science and Policy	
Choose one of the following repeatable courses (2 credits)		2
ENV S&P 715	Seminar in Ecology and Evolution	
or ENV S&P 795	Special Topics	
Environmental Science		3
ENV S&P 740	Ecology and Management of Ecosystems	
or ENV S&P 767	Environmental Technology and Analysis	
Public Policy		3
ENV S&P 713	Environmental & Natural Resource Economics	
or ENV S&P 752	Environmental Policy and Administration	
Total Credits		9

Course-Based Requirements (28 credits)

Code	Title	Credits
Required Core:		3
ENV S&P 763	Capstone in Environmental Science and Policy	
One additional seminar credit:		1
ENV S&P 715	Seminar in Ecology and Evolution	
ENV S&P 795	Special Topics	
One of the following quantitative courses:		4
ENV S&P 755	Environmental Data Analysis	
or ENV S&P 760	Social Research Methods	
One additional environmental science course (not already used in the core):		3
ENV S&P 740	Ecology and Management of Ecosystems	
ENV S&P 743	Landscape Ecology	
ENV S&P 767	Environmental Technology and Analysis	
Elective requirements:		17
Choose at least 17 credits from any of the program emphases		
Total Credits		28

Students pursuing the Course-Based Option are not required to form a committee of advisors. However, Course-Based Option students are encouraged to speak with the ES&P Graduate Chair (or any other member of the ES&P graduate faculty) for development of the course-based program.

Review of Steps Toward the Degree

- The candidate is admitted to the ES&P graduate program.
- The student submits an Official Declaration of Master's Degree (GR-1 Form) to the Office of Graduate Studies no later than the end of the semester in which the first six graduate credits are completed. This confirms the student intention to pursue the Course-Based Option and alerts the ES&P Graduate Chair of this decision.
- The Course-Based student completes 37 credit hours, 9 credits from the program core and 28 elective credits from any area of emphasis.
- The student registers to graduate and the degree is awarded and graduate receives diploma.

One of the primary goals of the Environmental Science and Policy (ES&P) graduate program is to prepare technically competent and creative individuals for advanced professional positions in the public or private sectors. Individuals pursing such career objectives will focus on course work in the emphases of Ecosystems Studies or Environmental Technology and Analysis. Another objective of the ES&P graduate program is to prepare highly skilled and imaginative individuals for management and policy-making positions in government, nonprofit organizations and the private sector. Individuals with such career objectives will focus on environmental policy course work in the emphasis of Environmental Policy and Administration. Students will be prepared to deal with a variety of environmental problems and to pursue further graduate work in this or related areas. An additional option is to develop a "personal program of study" fitting to the specific career interests of the student. In addition to the general core requirements described above, students will select a program of study from one of the areas of emphasis described below.

Areas of Emphasis and Requirements

Area of emphases and credit loads are described in detail below (credits are unduplicated by the program core). Note that some undergraduate courses are cross-listed as graduate courses and require only graduate status to enroll. It is strongly recommended that a student speak with the professor assigned to the course prior to enrolling to ensure that the student is adequately prepared to succeed in the course. Personal programs of study must conform to Environmental Science and Policy program guidelines and be approved in advance by the student's graduate committee, the Environmental Science and Policy program chair, and the Associate Provost for Academic Affairs and Director of Graduate Studies.

- Ecosystems Studies (http://catalog.uwgb.edu/graduate/graduate-programs/environmental-science-policy-ms/emphasis/ecosys)
- Environmental Policy and Administration (http://catalog.uwgb.edu/graduate/graduate-programs/environmental-science-policy-ms/emphasis/pol-adm)
- Environmental Technology and Analysis (http://catalog.uwgb.edu/graduate/graduate-programs/environmental-science-policy-ms/emphasis/envtech)
- Personal Program of Study (http://catalog.uwgb.edu/graduate/graduate-programs/environmental-science-policy-ms/emphasis/personal)

Faculty

Chen, Franklin, Associate Professor, Natural and Applied Sciences (Chemistry). B.A. (1970) National Taiwan University (Taiwan); Ph.D. (1977) Princeton University.

Fields of interest: organic contaminant remediation; rock erosion effects (tidal wave and bubble implosion effects on rock surfaces); mesoporous materials with gas phase contaminant adsorption properties; polymeric electrolytes with potential industrial applications; sonochemistry that may enhance catalytic ability.

Currier, Ryan, Assistant Professor, Natural and Applied Sciences (Geoscience). B.S. Geoscience, Michigan State University; M.A. and Ph.D. Magma Dynamics, Johns Hopkins University.

Fields of interest: transport phenomena of magma; magmatic ore formation; Antarctic geology.

Davis, Gregory J., Professor, Natural and Applied Sciences (Mathematics). B.S. (1981) UW-Green Bay; M.A. (1985), Ph.D. (1987) Northwestern.

Fields of interest: dynamical systems; mathematical modeling of biological and physical systems; cliff swallow-house sparrow species dynamics.

Dornbush, Mathew, Associate Professor, Natural and Applied Sciences (Biology). B.A. (1998) Augustana College; M.S. (2001), Ph.D. (2005) Iowa State University.

Fields of interest: soil ecology; plant-soil microbial interactions; soil microbial ecology; ecosystem carbon cycling; plant ecology; invasive species; restoration ecology.

Draney, Michael L., Professor, Natural and Applied Sciences (Biology). B.S. (1989) New Mexico State University; M.S. (1992), Ph.D. (1997) Univ. of Georgia.

Fields of interest: inventory, monitoring and assessment techniques for terrestrial and wetland invertebrates, taxonomy, and conservation of spiders and ground-dwelling arthropods.

Fermanich, Kevin J., Professor, Natural and Applied Sciences (Geoscience). B.S. (1985) UW-Stevens Point; M.S. (1988), Ph.D. (1995) UW-Madison.

Fields of interest: nonpoint pollution; soil management; watershed management, groundwater, contaminant fate and transport; vadose zone processes; community environmental monitoring.

Forsythe, Patrick S., Assistant Professor, Natural and Applied Sciences (Biology). B.S. (2000), M.S. (2003) Eastern Illinois University, Ph.D. (2010) Michigan State University.

Fields of interest: fisheries biology and ecology with emphasis on ecosystems of the Great Lakes region; mating systems and early life history dynamics of fishes; behavioral ecology and species interactions; population/community ecology; landscape ecology; conservation biology; dynamic evolutionary processes that lead to adaptation.

Grubisha, Lisa C., Assistant Professor, Natural and Applied Sciences (Biology). B.S. (1988) University of Wisconsin-Milwaukee, M.S. (1998) Oregon State University, Ph.D. (2005) University of California-Berkeley.

Fields of interest: Fungal ecology and evolution, Microbial diversity and function, Conservation Biology, Population Genetics, Phylogenetics.

Helpap, David, Assistant Professor, Public and Environmental Affairs (Political Science). B.S. (2006) Political Science, University of Wisconsin-Green Bay; M.A. (2008), Ph.D. (2012) Political Science, University of Wisconsin-Milwaukee.

Fields of interest: state and local government; urban politics; brownfield redevelopment; public management and budgeting; public policy

Howe, Robert W., Barbara Hauxhurst Cofrin Professor, Natural and Applied Sciences (Biology); Director, Cofrin Center for Biodiversity. B.S. (1974) Notre Dame; M.S. (1977), Ph.D. (1981) UW-Madison.

Fields of interest: terrestrial ecology and conservation biology; ecological indicators; bird population dynamics; population monitoring; landscape ecology; conservation design residential development; disease ecology; black bear ecology; evolutionary ecology.

Intemann, Jeremy J., Associate Professor, Natural and Applied Sciences (Chemistry). B.S. (2006) University of Northern Iowa, Ph.D. (2012) Iowa State University.

Fields of interest: synthesis of conjugated polymers and small molecules for use in organic electronics.

Katers, John F., Professor, Natural and Applied Sciences (Engineering). B.S. (1991), M.S. (1993) UW-Green Bay; Ph.D. (1996) Marquette.

Fields of interest: waste management; recycling, pollution prevention, renewable energy, water and waste water treatment.

Luczaj, John, Associate Professor, Natural and Applied Sciences (Geoscience). B.S. (1993) University of Wisconsin-Oshkosh; M.S. (1995) University of Kansas; Ph.D. (2000) Johns Hopkins University.

Fields of interest: fluid inclusion in minerals; water-rock interaction in sedimentary rock; groundwater contamination; karst geology and hydrogeology; stratigraphy of Paleozoic sedimentary rocks.

Mahfuz, Mohammad Upal, Assistant Professor, Natural and Applied Sciences (Engineering Technology). B.S. (2002) Bangladesh University of Engineering and Technology (BUET), Bangladesh, M.S. (2008) University of Calgary, Canada, M.Engg. (2005) Asian Institute of Technology, Thailand, Ph.D. (2014) University of Ottawa, Canada.

Fields of interest: nano scale communication systems, wireless communication and positioning systems, emerging and sustainable technologies.

Malysheva, Tetyana, Assistant Professor, Natural and Applied Sciences (Math). B.S., M.S. Computer Sciences, National Technical University of Ukraine “KPI”, Ph.D., M.A. Mathematics, University of Oklahoma; Ph.D. Physical and Mathematical Sciences - Computational Mathematics, Institute of Mathematics of the National Academy of Sciences of Ukraine.

Fields of interest: theory and applications of partial differential equations, numerical analysis, control of distributed parameter systems, continuum mechanics, inverse problems.

Meyer, Steven J., Associate Professor, Natural and Applied Sciences (Geoscience). B.S. (1983) Northern Illinois; M.S. (1986), Ph.D. (1990) University of Nebraska.

Fields of interest: climate change; the effects of climate change on natural resources; climate related decision making; long-range climate outlooks and their uses; science education.

Olson Hunt, Megan J., Assistant Professor, Natural and Applied Sciences (Statistics). B.A., B.S.T. (2007) Winona State University, Ph.D. (2014) University of Pittsburgh.

Fields of interest: Theoretical issues in missing data, applied environmental and neurological data analyses, teaching all levels of statistics.

Phoenix, Laurel, Associate Professor, Public and Environmental Affairs (Planning). B.S. (1992), M.S. (1994) Colorado at Boulder; Ph.D. (2001) SUNY College of Environmental Science and Forestry.

Fields of interest: water resources management; drinking water quality; anti-environmentalism; water and waste water infrastructure; rural environmental planning.

Stoll, John R., Professor, Public and Environmental Affairs (Economics). B.S. (1973) UW-Green Bay; M.S. (1977), Ph.D. (1980) Kentucky.

Fields of interest: natural resource and environmental economics; quantitative methods; nonmarket valuation methodology; economics of recreation and leisure; cost-benefit analysis, regional economics, fisheries economics, value of nonconsumptive resource usage.

Terry, Patricia A., Professor, Natural and Applied Sciences (Engineering). B.S. (1989), M.S. (1991) Texas-Austin; Ph.D. (1995) University of Colorado-Boulder.

Fields of interest: general water remediation; environmental separations; ion exchange processes; removal of heavy metals, chromates, phosphates, and nitrates from water.

Weinschenk, Aaron C., Assistant Professor, Public and Environmental Affairs. B.A., B.S. (2007) University of Wisconsin-Green Bay, M.A. (2009), Ph.D. (2013) University of Wisconsin-Milwaukee,

Fields of interest: American Government and Politics; Political Behavior; Campaigns and Elections; Political Psychology; Voting Behavior; Political Participation; Statistics; Research Design and Methodology.

Wheat, Elizabeth, Assistant Professor, Public and Environmental Affairs (Political Science). B.A. (2002) Psychology, Alma College; M.P.A. (2004) Comparative Environmental Policy, Indiana University; Ph.D. (2013) Political Science, Western Michigan University.

Fields of interest: environmental law, environmental justice, civil rights, wildlife smuggling, international organizations.

Wolf, Amy, Associate Professor, Natural and Applied Sciences (Ecology). B.S. (1989), M.S. (1993) UW-Green Bay; Ph.D. (1998) University of California-Davis.

Fields of interest: conservation biology, plant-animal interactions, restoration ecology, plant population ecology, ornithology; pollination ecology of rare plants, butterfly conservation and monitoring, population genetics of rare plants, invasive wetland plants, conservation of native bees.

Zorn, Michael E., Professor, Natural and Applied Sciences (Chemistry). B.S. (1993) UW-Green Bay; Ph.D. (1997) UW-Madison.

Fields of interest: development of photocatalytic and catalytic methods for degradation of environmentally relevant compounds; development of enhancement of experimental methods (including sensors) for the analysis of environmental samples.

Emeriti Faculty

Day, Harold Jack, Professor, Natural and Applied Sciences (Engineering). B.S. (1952), M.S. (1953), Ph.D. (1963) UW-Madison.

Fields of interest: water resources, fluid mechanics, hydrology and related applications of engineering to society and technology; regional water quality and associated land management and flood plain management; resource management.

Harris, Hallet J., Professor, Natural and Applied Sciences (Biology). B.A. (1961) Coe College; M.S. (1965), Ph.D. (1966) Iowa State.

Fields of interest: animal and wetland ecology; management of coastal areas; wildlife management; ecological risk assessment.

Kraft, Michael E., Herbert Fisk Johnson Professor, Public and Environmental Affairs (Political Science). B.A. (1966) UC-Riverside; M.A. (1967), Ph.D. (1973) Yale.

Fields of interest: American politics and government; public policy analysis; Congress; environmental policy and politics in the U.S.; sustainable communities; politics of nuclear waste disposal; business and environmental policy; environmental information disclosure.

Moran, Joseph M., Professor, Natural and Applied Sciences (Earth Science). B.A. (1965), M.S. (1967) Boston College; Ph.D. (1972) UW-Madison.

Fields of interest: nature of climatic change, air pollution meteorology; applications of paleoclimatic reconstruction techniques to Glacial-age evidence; environmental implications of current climatic changes; quaternary climatology; geology.

Niedzwiedz, William R., Professor, Public and Environmental Affairs (Geography). B.S. (1969), M.S. (1972) Massachusetts; Ph.D. (1981) Virginia Polytechnic.

Fields of interest: geographic information systems; aerial photo interpretation; coastal management; conservation design of landscapes; environmental impact.

Sager, Paul E., Professor, Natural and Applied Sciences (Biology). B.S. (1959) Michigan; M.S. (1963), Ph.D. (1967) UW-Madison.

Fields of interest: ecology of aquatic communities including nutrient studies in the phytoplankton of freshwater lakes; eutrophication of lakes; ecological effects of nutrient enrichment and water quality deterioration; limnology.

Scheberle, Denise L., Professor, Public and Environmental Affairs (Political Science). B.S. (1982), M.P.A. (1984) University of Wyoming; Ph.D. (1991) Colorado State University.

Fields of interest: environmental policy and law; policy implementation and formation; federal-state relationships in environmental programs; public administration; intergovernmental relations; public policy.

Stieglitz, Ronald D., Professor, Natural and Applied Sciences (Earth Science-Geology). B.S. (1963) UW-Milwaukee; M.S. (1967), Ph.D. (1970) Illinois.

Fields of interest: environmental geology; stratigraphic analysis; sedimentary geology; applications of geology to land use problems; ground water resources.

Wenger, Robert B., Professor, Natural and Applied Sciences (Mathematics). B.S. (1958) Eastern Mennonite; M.A. (1962) Pennsylvania State; Ph.D. (1969) Pittsburgh.

Fields of interest: application of mathematical models to environmental problems such as solid waste management and water quality management; ecosystem risk assessment and graph-theoretic approaches to the study of ecosystem stressors.

Adjunct Faculty

Katz, Chris, Adjunct Assistant Professor, (Veterinary Medicine). B.S. (1977), D.V.M. (1981) Iowa State.

Fields of interest: Black Bear research, wildlife and exotic pet medicine, wildlife anesthetization for research.

Medland, Vicki, Associate Director, Cofrin Center for Biodiversity (Biology). B.S. (1984) UW-Madison; M.S. (1989) New Mexico State University; Ph.D. (1997) University of Georgia.

Fields of interest: wetland ecology, evolutionary and behavioral ecology of aquatic invertebrate and zooplankton.

Reed, Tara, Adjunct Associate Professor, Natural and Applied Sciences (Biology). B.A. (1980) Whitworth; M.S. (1995) Oregon State; Ph.D. (1999) UW-Madison.

Fields of interest: impacts of anthropogenic activities and exotic invasions on aquatic ecosystem; changes in the Green Bay ecosystem following zebra mussel invasion; evaluating the changes in macroinvertebrate community structure downstream following dam removal.

Robertson, Dale, Adjunct Associate Professor, U.S. Geological Survey (Hydrology). B.S. (1981) St. Norbert College; M.S. (1984), Ph.D. (1989) UW-Madison.

Fields of interest: physical limnology; water-quality modeling; influence of environmental factors, watershed management strategies, and in-lake management alternatives on the water quality rivers and lakes; ice as climatic indicators; effects of artificial destratification; regional loading estimates; meteorological and lake physical measurements; air-water interactions.

Robinson, Patrick, Co-Director & Environmental Studies Specialist, UWEX Environmental Resources Center; Affiliate Cofrin Center for Biodiversity. B.S. (1994), M.S. (1996) UW-Green Bay; Ph.D. (2011) UW-Madison

Fields of interest: fresh water estuaries, wetlands, integration of social science into ecological research and management.

Master of Science in Health & Wellness Management

The Master of Science degree in Health and Wellness Management program will equip students with the competencies required to successfully promote and advance the health and well-being of defined groups of people, to effectively lead wellness programs and to conduct research in the discipline. The degree is designed to prepare professionals to assume senior leadership positions in the wellness management field and is unique from other programs in that it has an increased emphasis on management and leadership competency development and focuses on all dimensions of personal and organizational wellness. Over the past 30 years, wellness has developed into a primary business strategy as these programs, when managed effectively, have documented successes in addressing key business issues such as health care cost containment, productivity, absenteeism, and risk management. The program features a multidisciplinary curriculum that draws on psychology, health, nursing/healthcare, communication and management sciences.

Admission Requirements

Each applicant's prior academic work and experience will be evaluated prior to admission. Applicants are expected to have college-level writing, oral communication and computer skills. Students who show exceptional promise but lack the minimal prerequisites may be admitted provisionally. Applicants are not required to take the GRE for admission.

The application process requires completion of a UW-Green Bay Graduate Application form; resume; personal statement describing the applicant's interest in the degree (see below); names and contact information of two references (see below); and official transcripts (undergraduate and graduate).

Prerequisites

Minimum admission requirements are:

- A baccalaureate degree from an accredited institution.
- A minimum of a 3.0 grade point average (GPA).
- Prerequisite coursework in:
  - Personal Health or equivalent
  - Anatomy & Physiology or Human Biology or equivalent
  - Intro to Psychology or equivalent
  - Elementary Statistics or equivalent
- Two (2) letters of recommendation (can be professional or academic)
- Resume
- Up to 1,000 word statement of personal intent describing decision to pursue this degree and what you believe you will bring to the health and wellness management field.
- No required aptitude tests (GRE, GMAT, e.g.)

Code	Title	Credits
HWM 700	Contemporary Health and Wellness Perspectives	3
HWM 705	Strategic Management for Wellness Managers	3
HWM 710	Research Methods for Wellness Programs	3
HWM 715	Persuasion Skills for Wellness Managers	3
HWM 720	Exercise and Nutrition in Health and Disease	3
HWM 730	Biopsychosocial Aspects of Health	3
HWM 740	Health Systems and Policy for Wellness Managers	3
HWM 750	Planning and Evaluation for Wellness Managers	3
HWM 760	Wellness Law	3
HWM 770	Behavior and Development in Organizations	3
HWM 780	Best Practices and Emerging Issues in Wellness	3

HWM 790	Health and Wellness Management Capstone Course	3
Total Credits		36

Dr. Christine Vandenhouten PhD, RN, APHN-BC, CPH, Associate Professor and Academic Director of the Master of Science in Health and Wellness Management program. BSN (1986) Marian University, Fond du Lac, WI; MSN (1991) University of Wisconsin- Oshkosh; Ph.D. (2008) Marquette University, Milwaukee, WI.

Fields of interest: Health Policy, Healthcare Finance, Program Assessment and Evaluation, Emotional intelligence/leadership styles, Community/public health, global health, Interprofessional healthcare, Leadership on Boards of Directors.

Dr. T. Heather Herdman PhD, RN, Associate Professor, Nursing. B.S.N. (1988), University of South Carolina, Columbia; M.S.N. (1991), and Ph.D. (1995), Boston College

Fields of interest: clinical reasoning, nursing diagnosis, patient safety and outcomes, leadership, integrative health care, cultural competence

Master of Science in Management

The University of Wisconsin-Green Bay's Master's of Management program is an innovative, advanced study of the management process and its outcomes. The program, offered through UW-Green Bay's Austin E. Cofrin School of Business, prepares effective leaders and strategic decision-makers for the region's businesses, nonprofit organizations, and government agencies. Students in the program are managers from a variety of organizations, both large and small, as well as individuals who wish to enter the management profession.

This program provides students, many of whom already have extensive business backgrounds, with the knowledge and critical thinking skills needed to lead and succeed in complex and dynamic organizations. Students who have experienced success in the workplace find that additional education enhances their professional profile and affords new professional opportunities. The program develops leaders who will take on new management challenges and make a positive difference in their workplace and community.

Leadership, innovation, strategic thinking, and effective communication are the program's cornerstones. Advanced consideration of vital organizational knowledge, including the management of financial information and strategic marketing, enables students to play key roles in organizational decision making. Interdisciplinary problem-solving is emphasized through the program's content and pedagogy, which incorporates both theoretical and applied approaches to developing the skills for life-long learning.

The Master's of Management is created with students' needs in mind. Students have the convenience of small classes and the opportunity to work closely with dedicated faculty who will challenge students to perform at the highest levels. All instructors are experienced teachers with doctorate degrees. They also have wide-ranging community involvement and professional and international experience.

Convenient scheduling is one of the program's key features. Many graduate students work full time and pursue their graduate studies on a part-time basis. Master's of Management courses are offered in the evening or over a series of weekends. While the program is structured to accommodate part-time students, those seeking full-time education are also served.

Admission Requirements

All courses are taught under the assumption that students have the necessary background and preparation to succeed in the program. A well-prepared student enters the program with an understanding of and an undergraduate competency level in management, marketing, finance, accounting, and statistics. Students can demonstrate their competency by completing undergraduate or foundation courses in the five areas or by passing competency exams. The program adviser will review these options with prospective students to ascertain the student's level of competency.

Admission requirements for the Master's of Management program closely follow the University-wide policy for admission to graduate programs. These requirements include:

- A bachelor's degree from an accredited institution.
- A 3.0 grade point average on a 4.0 scale.
- International applicants must be prepared to provide Evidence of English Proficiency. A minimum paper score of 500 or computer-based score of 213 on the Test of English as a Foreign Language (TOEFL) is required. For a complete list of alternatives to the TOEFL exam, please contact the Office of Graduate Studies. International applicants must also provide a course by course Evaluation of Foreign Credentials from Educational Credential Evaluators (ECE) for an application to be considered. International applicants who meet English Proficiency and academic admission requirements will be admitted but must also show evidence of financial resources adequate to provide for their educational expenses before an I-20 will be provided.

Applicants who do not meet the 3.0 grade point average requirement or who have other deficiencies may be admitted on a provisional basis.

Special Students

Persons holding a bachelor's or higher-level degree who wish to enroll in courses but do not want to pursue a Master's of Management degree may enroll as special students. Graduate credit will be awarded provided that the student registers in graduate-level courses as a graduate special student and pays appropriate fees.

Degree Requirements

The 30-credit curriculum consists of a graduate core of eight required courses (24 credits) and one elective Management course (3 credits). A three-credit, hands-on professional project is the capstone of the program's academic experience.

Code	Title	Credits
Management Core		24
BUS ADM 589	Organizational Behavior	
BUS ADM 646	Advanced Corporation Finance	
MANAGMNT 730	Leading the Self	
MANAGMNT 735	Foundations of Strategic Information Management	
MANAGMNT 745	Business and Marketing Strategy	
MANAGMNT 750	Team Leadership	
MANAGMNT 758	Innovation and Entrepreneurship	
MANAGMNT 759	Managing Knowledge for Sustainability	
Elective Courses-choose one course:		3
MANAGMNT 736	Analysis & Design of Business Information Systems	
MANAGMNT 737	Strategic Application of E-Commerce	
PU EN AF 535	Principles and Practices of Emergency Management	
PU EN AF 536	Strategic Emergency Preparedness, Planning and Implementation	
PU EN AF 537	Disaster Response Operations and Management	
PU EN AF 538	Disaster Recovery	
PU EN AF 559	Political and Policy Dimensions of Emergency Management	
Professional Project		4
MANAGMNT 796	Professional Project	
Total Credits		31

Steps Toward the Degree

- The candidate is admitted to the graduate program.
- In consultation with the program adviser, an *Official Declaration of Master's Degree* (GR-1 Form) is filed on the student's behalf.
- After at least 24 credits, the student registers for MANAGMNT 796.
- The student files an *Application for Graduation* with the Registrar's Office through the Student Information System (SIS). The application must be completed and submitted to the Office of the Registrar prior to November 1 for fall semester graduates, and April 1 for spring and summer semester graduates.
- Upon successful completion of professional project course, the instructor will enter grade in SIS. Filing the *Approval of Thesis Defense or Project Presentation* (GR-4 Form) with the Graduate Studies Office indicates satisfactory completion of the professional project and presentation.
- Graduate receives diploma.

Faculty/Advisers

Bansal, Gaurav, Associate Professor, Business Administration (MIS/Statistics). B.E. (1996) University of Gorakhpur; M.B.A. (2002) Kent State University; Ph.D., MIS (2008) University of Wisconsin-Milwaukee.

Interests: Teaching interests include introduction to management information systems, e-commerce, business statistics, database management systems, and web development. Research interests include internet information privacy and security, internet trust, e-commerce, and data mining.
Gurtu, Amulya, Assistant Professor of Supply Chain Management, M.S in engineering (1995), Bhopal university; MBA (2007) Western University; Phd In Industrial engineering (2014) Ryerson University, Toronto (Canada)

Interests: Optimizing supply chains, global operations and offshore outsourcing

Madupu, Vivek, Assistant Professor of Marketing, MBA (1997) Bharathidasan Institute of Management; Ph.D. (2006) University of Memphis

Interests: Advertising, and Cross-Cultural Marketing.

Meng, Yun, Assistant professor of finance. B.E, Chongqing University (China); M.S in Statistics, University of Arkansas; Ph.D,Finance (2016) University of South Florida in 2016.

Intersts: Investment, behavior finance, international finance, and mergers and acquisitions

Murphy, Dianne, Assistant Professor, Organizational Behavior, B.S (1993) St.Norbert College; MBA (2008), University of Wisconsin-Milwaukee; PhD , Organizations and Strategic Management (2017), University of Wisconsin-Milwaukee

Interests: Diversity, Entrepreneurship, Culture, Mentoring, Identity, International Business

Radosevich, David, Associate Professor, Business Administration (Management). B.A. (1994) Western Maryland College; Ph.D., Industrial/ Organizational Psychology (1999) University at Albany, State University of New York.

Interests: Teaching interests include leadership development, human resource management, organizational behavior, and team building. Research interests include motivational processes, performance management, goal orientation, and the impact of technology on learning. Member: Society for Industrial/Organizational Psychology, and American Psychological Association.

Ranganathan, Sampath, Associate Professor and Chair, Master's of Management,, Business Administration (Marketing). B.Com. (1993), M.B.A. (1996) Bharathiar University; M.Phil (2011) Alagappa University; Ph.D., Marketing/Research Methods (2008) University of Memphis.

Interests: Teaching interests include Marketing, Marketing research, Advertising, and Services marketing. Research interests include consumer behavior, advertising, services marketing and social marketing.

Russ, Meir, Professor, Business Administration (Management). B.Sc.E.E. (1980), M.B.A. (1990) Tel-Aviv University; M.A. (1992), Ph.D. (1993) Ohio State University.

Interests: Teaching interests include knowledge management, human capital valuation, global strategy, strategic management, marketing management, innovation and leadership and decision-making. Research interests include knowledge management, knowledge based strategies, human capital valuation, e-learning and memetics. Member of IEEE, Academy of Management, and Informs. Founding Chief Editor, *International Journal of Management and Business* (IJMB). Consulting with global corporations in the area of strategic planning, marketing and knowledge management.

Shin, Soo il, Assistant Professor of Management Information Systems/Statistics, B.S (1998), Sogang University; MBA (2008) Sogang University; Phd (2014) , MIS Auburn University

Interests: Computer-mediated communication, social media and its business use, virtual community and trust concerns in the context of e-media

Teclezion, Mussie, Associate professor of finance, B.A. in Accounting (1999) University of Asmara, Eritrea; M.B.A. (2003) University of Illinois in Urbana-Champaign; PhD in Finance (2008)Southern Illinois University – Carbondale in 2008.

Interests: financial and investment policies of firms, geographic and industrial diversification strategies, mergers & acquisitions, and earnings management

Master of Science in Nursing Leadership and Management in Health Systems

The MSN Leadership and Management in Health Systems is intended for RNs holding a bachelor's degree in nursing. This master's degree provides advanced coursework in leadership and management to improve care at multiple levels across the continuum of health care settings. The curriculum will provide students with knowledge and skills to improve outcomes in areas of quality processes, cost savings, and patient satisfaction. Core content within the curriculum includes leadership, fiscal management, evaluative methods, information systems, health care policy, communication, and organizational behavior. Didactic and practicum courses will comprise the curriculum. Practicum experiences will be arranged with health care facilities in students' geographic areas. More information, admission requirements, required application materials and applications can be can be found on the UW-Green Bay Graduate Studies website.

The curriculum consists of 13 graduate-level courses delivered via a part-time model. Students can complete the program in 6 terms over two years taking two courses each term. Alternatively, they can progress taking one class per term and complete the program over four years. (Alternative schedules requiring between 2-4 years are possible. Consult with a Nursing adviser.) Degree completion requirements include 34 credits of coursework including 9 credits of practicum/project (378 hours). Practicum experiences will be arranged with health care facilities close to students' homes or work sites. The final practicum includes a master's leadership project identified in collaboration with a health care facility. Master's projects will be presented in a format suitable for public dissemination (e.g., manuscript for publication). A thesis option is not planned.

The MSN Leadership and Management in Health Systems program prepares the graduates to:

1. Integrate knowledge of sciences and humanities as a basis for leadership and nursing practice.
2. Apply concepts of organizational and systems leadership indecision making in the health care environment.

3. Enact a nurse leader role in safety and quality improvement in the health care environment.
4. Apply research evidence in nursing leadership and practice to enhance care and improve outcomes of nursing.
5. Utilize informatics and health care technologies to enhance care and outcomes of nursing.
6. Intervene at the systems level through policy, fiscal management, and advocacy to influence the health care environment.
7. Communicate and collaborate as a member and leader of inter professional teams to optimize health care delivery.
8. Analyze the role of nurse leader to reduce health disparities and promote population health.
9. Evaluate personal growth as a professional nurse leader.
10. Influence health care outcomes through master's level nursing practice, cognizant of environmental sustainability.

The MSN Leadership and Management in Health Systems Program Outcomes and curriculum is aligned with the American Association of Colleges of Nursing [AACN] Essentials of Masters Education (2011) and the American Organization of Nurse Executives [AONE] Competencies (2005).

Admission Requirements

Admission requirements for the MSN Leadership and Management in Health Systems program closely follow the University-wide policy for admission to graduate programs. The requirements include:

- A baccalaureate degree in nursing from a program accredited by a professional nursing organization (e.g., National League for Nursing Accrediting Commission [NLNAC] or Commission on Collegiate Nursing Education [CCNE]).
- A 3.0 grade point average (measured on a 4.0 scale) or higher on Bachelor of Science in Nursing degree transcript.
- Evidence of receiving a grade of “C” or better in a college-level inferential statistics course within the past 5 years. An inferential statistics course is available online from UW-Green Bay for potential applicants. No entrance exams required (e.g., GRE, MAT).
- BSN degree from a program accredited by a professional nursing organization (e.g., National League for Nursing Accrediting Commission or Commission on Collegiate Nursing Education).
- 3.0 grade point average (measured on a 4.0 scale) or higher on BSN degree transcript.
- Evidence of receiving a grade of “C” or better in a college-level inferential statistics course within the past 5 years. An inferential statistics course is available online from UW-Green Bay for potential applicants.
- No entrance exams required (e.g., GRE, MAT).

Required application materials for the MSN Leadership and Management in Health Systems program. Submit the following to the UW-Green Bay Graduate Office:

- A completed application form and the application fee.
- A 200-300 written statement describing academic interest in leadership and management, nursing strengths and capabilities, knowledge of online technology (computer use, online coursework, etc.), reasons for pursuing a MSN degree, and description of where you see yourself in 5 years.
- Official undergraduate and graduate transcripts from each previous college or university attended, sent directly to UW-Green Bay from these institutions.
- Three letters of recommendation from persons who can assess your academic potential.
- Curriculum vitae or resume.
- Copy of current, unencumbered U.S. RN license.

Upon admission to the program, you will need to provide the following to the coordinator of the MSN Leadership and Management in Health Systems:

- Professional photo of yourself or one of you at your job (headshot) will be required upon admission to the MSN program. UWGB will use the photo for education and marketing purposes.
- Background check by UWGB vendor.
- Basic Healthcare Provider CPR certification.

International Students

International students should visit, http://www.uwgb.edu/graduate/international/, for additional information on the following requirements.

- Evidence of English Proficiency (such as a TOEFL score).
- Evaluation of Foreign Educational Credentials from Educational Credential Evaluators (ECE) or a similar evaluation service.
- Evidence of financial resources.
- Financial Support Statement.

Special Students

Persons holding a bachelor's or higher-level degree who wish to enroll in courses but do not want to pursue a MSN in Leadership and Management in Health Systems degree may enroll as special students. Graduate credit will be awarded provided that the student registers in graduate-level courses as a graduate special student and pays appropriate fees.

Degree Requirements

The 34-credit curriculum consists of 13 graduate courses. Students in the program are required to earn a grade of "B" or better in all required courses. The program is delivered via a part-time model. Students can complete the program in 6 semesters (fall I, spring I, summer I, fall II, spring II, summer II) with two courses offered each semester. A master's professional project is the capstone of the program's academic experience. The master's leadership project is in lieu of a thesis.

Three practicum/project courses (9 credits) are required and in total amount to 378 practicum hours.

Code	Title	Credits
NURSING 734	Evaluation and Evidence-Based Practice in Health Systems	
NURSING 737	Leadership in Health Systems	
NURSING 741	Theories of Organizational Behavior and Leadership in Health Systems	
NURSING 745	Economics and Policy in Health Systems	
NURSING 750	Human Resource Management in Health Systems	
NURSING 755	Program Planning for Population Health	
NURSING 760	Informatics in Health Systems	
NURSING 770	Practicum I: Leadership Practices - Quality and Safety in Health Systems	
NURSING 772	Practicum II: Leadership Practices - Change, Culture and Communication in Health Systems	
NURSING 774	Practicum III: Transition to Leadership Role in Health Systems	
NURSING 780	Financial Management in Health Systems	
NURSING 785	Environmental Sustainability in Health Systems	
NURSING 790	MSN Leadership Project (3 credits required)	

Steps Toward the Degree

1. Applicant is admitted to a graduate program.
2. Students in the MSN Leadership and Management in Health Systems program DO NOT NEED TO submit an *Official Declaration of Master's Degree* (Form GR-1) to the Office of Graduate Studies.
3. Students in the MSN Leadership and Management in Health Systems develop a project proposal. MSN students develop and complete a master's professional project identified in collaboration with a health care facility and mentor and their project Committee and Committee Chair (an MSN faculty member). The proposal is reviewed and approved by the thesis/project committee. Once approved, a ***Thesis/Project Proposal*** **Form GR-2** is submitted to the Graduate Studies office.
4. Students in the MSN Leadership and Management in Health Systems schedule a professional project presentation via submission of the ***Request for Thesis Defense/Project Presentation*** **Form GR-3** to the Graduate Studies office. MSN students' project presentation will disseminate information from the master's professional project in a suitable format (e.g., manuscript for publication, presentation).
5. The scheduled thesis defense meeting or professional project presentation takes place. Formal approval of the defense is documented on the ***Approval of Thesis Defense or Project Presentation*** **Form GR-4** and is kept with the academic record.
6. If the thesis or professional project is successfully completed and approved, the student applies for conferral of the degree to the Registrar's Office through the Student Information System (SIS).
7. Degree is awarded and graduate receives diploma. Graduating MSN students are encouraged to participate in the May graduation ceremonies, completing the final practicum and courses in the following summer semester, with actual diplomas received upon completion of these courses in August.

Faculty/Advisers

Gajeski, Sharon, Senior Nursing Adviser, B.S.N., University of Wisconsin-Green Bay; M.S.N., University of Wisconsin-Oshkosh.

Gallagher-Lepak, Susan, Associate Professor, Nursing and Program Chair. B.S.N, Marquette University, Milwaukee; M.S.N., University of Wisconsin-Milwaukee; Ph.D., University of Wisconsin-Madison.

Fields of interest: quality of life issues, chronic illness, online learning.

Hovarter, Rebecca, Lecturer (with faculty status), Nursing. B.S.N., University of Wisconsin-Green Bay; M.S.N. and DNP, University of Minnesota-Twin Cities

Fields of interest: Public health, health equity, social determinants of health

Reilly, Janet, Associate Professor, Nursing. B.S.N., Alverno College, Milwaukee; M.S.N., Concordia University, Milwaukee; D.N.P., Case Western Reserve University, Cleveland.

Fields of interest: sense of belonging/community, emotional intelligence/leadership styles, community/public health, technology, online teaching/learning.

Tyczkowski, Brenda, Assistant Professor, Nursing. B.S.N., University of Wisconsin-Green Bay; M.S.N., University of Wisconsin-Oshkosh; D.N.P., Kansas State University, Kansas City.

Fields of interest: patient advocacy, organizational change, emotional intelligence/leadership styles, quality of care issues in nursing homes.

Vandenhouten, Christine, Associate Professor, Nursing. B.S.N., Marian College, Fond du Lac; M.S.N., University of Wisconsin-Oshkosh; Ph.D., Marquette University, Milwaukee.

Fields of interest: assessment and evaluation methods, emotional intelligence/leadership styles, community/public health, global health.

Master of Science in Sustainable Management

The University of Wisconsin-Green Bay, the University of Wisconsin-Oshkosh, the University of Wisconsin-Parkside, the University of Wisconsin-Stout and the University of Wisconsin-Superior have collaborated to offer an online master's degree program in Sustainable Management. The master's degree in Sustainable Management is appropriate for students with an existing bachelor's degree in a range of disciplines and the desire to continue their education in this developing field. The interdisciplinary nature of this degree encourages students to examine sustainability from different perspectives and the curriculum ensures that students gain a comprehensive understanding of the ways in which changing human activities affect our natural, social and economic environments.

Admission Requirements

Each student's prior academic background is evaluated by the Chair at the University of Wisconsin-Green Bay. Students with a GPA of 3.0 or greater will be admitted to the program. Students with a GPA above 2.5 may be considered for provisional admission by an Admissions Committee consisting of representatives from all the participating campuses, although additional verification of academic record and potential could be requested.

Degree Requirements

Students who are adequately prepared when they enter the program may earn the degree by satisfactorily completing a minimum of 34 credits of course work, which includes 1 credit for a capstone preparation course and 3 credits for a capstone project. Those who lack appropriate prerequisites may need to take additional courses to strengthen their backgrounds. Credits earned in undergraduate courses cannot be applied toward the graduate degree in Sustainable Management.

All students in the Sustainable Management program are required to complete a core curriculum of 24 credits, the capstone preparation course and the capstone course. The remaining 6 credits can be selected from a group of specialty track electives based on the student's areas of interest.

Code	Title	Credits
Core Curriculum		24
SMGT 700	Cultural and Historical Foundations of Sustainability	
SMGT 710	The Natural Environment	
SMGT 720	Applied Research and the Triple Bottom Line	
SMGT 730	Policy, Law and the Ethics of Sustainability	
SMGT 740	Economics of Sustainability	
SMGT 750	The Built Environment	
SMGT 760	Geopolitical Systems: Decision Making for Sustainability on the Local, State and National Level	
SMGT 770	Leading Sustainable Organizations	
Speciality Electives - choose two of the following courses:		6
SMGT 699	Travel Course	
SMGT 780	Corporate Social Responsibility	
SMGT 782	Supply Chain Management	
SMGT 784	Sustainable Water Management	
SMGT 785	Waste Management and Resource Recovery	
Capstone Experience		4

SMGT 790	Capstone Preparation Course	
SMGT 792	Capstone Project	
Total Credits		34

Steps Toward the Degree

1. The candidate applies to the Master of Sustainable Management program by submitting an application, official transcripts, resume, statement of intent and two letters of reference to the University of Wisconsin-Green Bay.
2. The candidate is admitted to the Master of Sustainable Management program by the program Chair.
3. The student fulfills the degree requirements for the program.
4. The student is awarded a Master of Sustainable Management degree from the University of Wisconsin-Green Bay.

Faculty/Advisers

Chandna, Vallari, Assistant Professor, Business Administration (Management). BA.LL.B-Honors (2007); MBA. (2011) University of North Texas; Ph.D. (2016) University of North Texas.

Fields of Interest: Teaching interests include Organizational Behavior, Strategic Management, Entrepreneurship, Business Policy (capstone), Leadership and Human Resources Management. Research interests include virtual entrepreneurship, new organizational forms (temporary organizations), degrowth, sustainability, individual and organizational issues in start-ups, and inter-organizational relationships. Currently a Board Member for Southwest Academy of Management serving as a Representative-at-Large. (EMBI) and Track Chair for the upcoming International Conference on Entrepreneurship & Family Business (ICEFB).

Katers, John F., Dean, College of Science and Technology. Academic Director, Master of Science in Sustainable Management (SMGT). Frederick E. Baer Professor in Business. B.S. (1991), M.S. (1993) UW-Green Bay; Ph.D. (1996) Marquette.

Fields of Interest: Waste management, recycling, pollution control, pollution prevention, renewable energy, and waste water treatment.

Wheat, Elizabeth, Assistant Professor, Public and Environmental Affairs (Political Science). B.A. (2002) Alma College, M.P.A. (2004) Indiana University, Ph.D. (2013) Western Michigan University.

Fields of Interest: Teaching interests include environmental law and policy; global environmental politics; natural resources; constitutional law; and global politics. Research interests include environmental law at the U.S. Court of Appeals; wildlife smuggling; environmental justice; environmental policy, particularly endangered species and water policy; and policy analysis.

Emeriti Faculty

Kraft, Michael E., Herbert Fisk Johnson Professor, Public and Environmental Affairs (Political Science). B.A. (1966) UC-Riverside; M.A. (1967), Ph.D. (1973) Yale.

Fields of Interest: American politics and government; public policy analysis; Congress; environmental policy and politics in the U.S.; sustainable communities; politics of nuclear waste disposal; business and environmental policy; environmental information disclosure.

Master of Social Work

The MSW program prepares students for advanced practice social work in a variety of fields of practice. The curriculum is founded on the program's mission and goals and emphasizes social justice advocacy, leadership, and social work with, and on behalf of, vulnerable families. The program offers a full-time curriculum which can be completed in two calendar years for students entering at the Generalist level or one year for students entering at the Specialized level. A part-time program is also available which can be completed in nine semesters for students entering at the Generalist level or five semesters for students entering at the Specialized level. A key element of the program is the opportunity for students to integrate and apply their classroom learning in a field internship setting.

Admission Requirements

The program seeks applicants who have demonstrated academic potential for graduate study, readiness and suitability for advanced-level social work, and who are able to articulate a commitment to social work. In addition, the program seeks applicants with demonstrated human services experience and sensitivity to multi-cultural practice, social justice, and leadership/advocacy.

Required Qualifications

To be considered for admission to the MSW program, the following criteria must be met:

1. An undergraduate degree from a regionally accredited university by the time classes start.
2. A 3.0 grade point average (GPA), measured on a 4.0 scale. Consistent with Graduate Studies policy, students from schools not using a grading system will be evaluated on an individual basis. Students who do not meet the 3.0 GPA requirement or who have other deficiencies may be admitted

on a provisional basis. Provisionally admitted students who receive at least a B grade in courses totaling nine credits of graduate work, after acceptance, will be fully admitted.

3. An academic background in the liberal arts with completion of a minimum of 12 credits in the social sciences. Examples include coursework within or across the following disciplines: psychology, sociology, anthropology, economics and political science.
4. A total of four prerequisite courses are required and include one course from each of the following areas: Biological Life Sciences, Lifespan Development, Statistics, and Research Methods. Students without a BSW degree who are applying for admission to the Generalist Program must have completed all prerequisites prior to the start of the program. Students who have a BSW degree are considered to have met all four prerequisites.
5. International students must provide evidence of English proficiency. Please see the Graduate Studies website for more information.
6. To be considered for admission, applicants with social work degrees from international universities must substantiate their academic credentials via the Council on Social Work Education (CSWE) International Social Work Degree Recognition and Evaluation Service (ISWDRES). Information is available here: https://cswe.org/Centers-Initiatives/Initiatives/International-Degree-Review.aspx

Preferred Qualifications

In addition to meeting the required admissions qualifications noted above, applicants with the following qualifications will be given preference for admission.

1. Demonstrated post-high school human services-related experience. Examples include paid employment, volunteer work, and internships.
2. Written communication that demonstrates clear and succinct conceptualization of ideas, application of critical thinking, the ability to coherently communicate and organize ideas, and the ability to write using correct grammar, spelling and syntax.
3. Commitment to social justice, advocacy, and multicultural practice on behalf of vulnerable and oppressed populations.

The Graduate Record Examination (GRE) is not required.

Additional Admission Information

The MSW program admits students once per year. Applications and specific instructions for submission are posted on the MSW program website in late summer with applications due in December. Applicants are encouraged to review the MSW program website for specific admission dates, fees, and application submission requirements.

Degree Requirements

For program applicants who do not have a Bachelor of Social Work degree, 63 credits are required for graduation. This includes a 29-credit two-semester Generalist curriculum (fall and spring), and a 34-credit three-semester Specialized curriculum (summer, fall and spring). Applicants with a BSW degree may receive advanced standing status in the MSW Program if they meet one of the following two options:

OPTION ONE: BSW degree from a baccalaureate social work program accredited by the Council on Social Work Education (CSWE) or those recognized by the International Social Work Degree Recognition and Evaluation Service. BSW degree must be obtained within seven years of the year of admission to the UW-Green Bay MSW program.

OPTION TWO: Must meet all three of the following criteria:

1. BSW degree from a CSWE-accredited program,
2. Current Wisconsin Social Work certification (training certificate excluded), and
3. Post-BSW social work practice experience equivalent to three full-time years (approximately 6,240 hours). Work experience must be obtained within 10 years of the year of admission to the MSW Program.

Applicants are responsible for providing evidence of meeting the criteria in Option Two.

Part-Time Option

Students entering the Generalist Program complete the part-time option in four years. Students entering with advanced standing complete the part-time option in two years.

Code	Title	Credits
Generalist Curriculum:		63
SOC WORK 701	Contemporary Social Work Ethics	
SOC WORK 702	Generalist Practice I	
SOC WORK 703	Direct Practice Skills	
SOC WORK 704	Generalist Practice II	
SOC WORK 705	Macro Practice Skills	
SOC WORK 707	Human Behavior and the Social Environment	

SOC WORK 711	Foundations of Social Welfare	
SOC WORK 712	Field I	
SOC WORK 713	Seminar I	
SOC WORK 714	Field II	
SOC WORK 715	Seminar II	
Specialized Curriculum:		34
SOC WORK 716	Field III	
SOC WORK 717	Seminar III	
SOC WORK 718	Field IV	
SOC WORK 719	Capstone Seminar	
SOC WORK 720	Diversity, Social Justice & Advocacy	
SOC WORK 721	Advanced Practice: Multi-Level Family Systems	
SOC WORK 728	Advanced Policy: Leadership, Advocacy and Practice	
SOC WORK 731	Research for MSW Practice	
SOC WORK 736	Advanced Program Evaluation	
SOC WORK 738	Advanced Practice: Community Empowerment	
Electives - complete 6 credits:		
BUS ADM 589	Organizational Behavior	
EDUC 552	Social and Family Influences on Development and Learning	
HUM DEV 544	Dying, Death, and Loss	
MANAGMNT 750	Team Leadership	
PU EN AF 615	Public and Nonprofit Budgeting	
SOC WORK 722	Social Work Management & Supervision in the Social Services	
SOC WORK 727	Psychopathology for Clinical Social Work	
SOC WORK 735	Emerging Issues in Child Welfare	
SOC WORK 737	Crisis Intervention	
SOC WORK 747	Clinical Theories for Mental Health Practice	
SOC WORK 757	Social Work Practice in the Criminal Justice System	
SOC WORK 767	Assessing Mental Health and Substance Use in Practice	
SOC WORK 777	Forensic Social Work: Policy and Practice	
SOC WORK 795	Special Topics	
SOC WORK 798	Independent Study	
Total Credits		97

Steps Toward the Degree

1. Prospective student submits an admission application and is recommended for admission.
2. Applicant is admitted to the Master of Social Work graduate program.
3. The student develops a portfolio project which is defined in consultation with the program faculty and adviser.
4. The student files an *Application for Graduation* with the Registrar's Office through the Student Information System (SIS). The application must be completed and submitted to the Office of the Registrar in the fall semester for spring and summer semester graduates.
5. Upon successful completion of the portfolio project the instructor files the *Approval of Thesis Defense or Project Presentation* (GR-4 Form) with the Office of Graduate Studies.
6. Degree is awarded and graduate receives diploma.

First Year

Fall	Credits	Spring	Credits
Generalist Curriculum		Generalist Curriculum	
SOC WORK 700	2	SOC WORK 701	3
SOC WORK 702	3	SOC WORK 704	3
SOC WORK 703	1	SOC WORK 705	1
SOC WORK 711	3	SOC WORK 707	3
SOC WORK 712	4	SOC WORK 714	4
SOC WORK 713	1	SOC WORK 715	1
	14		15

						Second Year
Fall	Credits	Spring	Credits	Summer		Credits
Specialized Curriculum		Specialized Curriculum		Specialized Curriculum		
SOC WORK 716	4	SOC WORK 718	4	SOC WORK 728		3
SOC WORK 717	1	SOC WORK 719	1	Elective		3
SOC WORK 720	3	SOC WORK 721	3			
SOC WORK 731	3	SOC WORK 736	3			
SOC WORK 738	3	Elective	3			
	14		14			6

Total Credits: 63

Faculty

Faculty members in the MSW Program represent a wide range of teaching, practice, and research experiences. Contact information and biographies for faculty and staff are available on the program website at: https://www.uwgb.edu/social-work/faculty-staff/

Certificate Programs

- Emergency Management, Planning and Administration (p. 36)

Emergency Management, Planning and Administration

The University of Wisconsin-Green Bay's Emergency Management certificate program for graduate and undergraduate credit is the first of its kind in the state of Wisconsin.

The program responds to and anticipates challenges as varied and fresh as today's headlines. Emergencies resulting in catastrophic loss of life, property and resources are unfortunate facts of life, worldwide. Some believe the risk of hazardous events will only increase, a consequence of mankind's growing ability to alter the environment, more numerous and increasingly severe weather events, the rise of global terrorism, and the ability of viruses and contagious diseases to spread rapidly in an interconnected world.

As a result, today's emergency managers need to be well educated, prepared and informed. Federal officials have recommended there be a college-credit emergency management program in every state. There is general consensus the field is evolving into a professional area requiring advanced education.

Impacts from a disaster can be lessened when businesses, emergency personnel and governments put well-designed plans into action. Such planning requires skills in budgeting, administration, management and emergency operation procedures.

What Will You Learn?

The UW-Green Bay Certificate in Emergency Management, Planning and Administration provides coursework in:

- Budgeting
- Mitigation
- Planning
- Responding
- Recovery from natural and man-made disasters

The certificate program is made up of five three-credit courses:

Code	Title	Credits
PU EN AF 535	Principles and Practices of Emergency Management	3
PU EN AF 536	Strategic Emergency Preparedness, Planning and Implementation	3
PU EN AF 537	Disaster Response Operations and Management	3
PU EN AF 538	Disaster Recovery	3
PU EN AF 559	Political and Policy Dimensions of Emergency Management	3
Total Credits		15

Courses are taught by university faculty members and knowledgeable professionals from the community.

Who Should Enroll?

The courses offered in the Emergency Management, Planning and Administration program are designed for those already in the profession as well as those pursuing an interest in the field. This includes:

- Public safety personnel (emergency management, airport personnel, fire and police)
- General public-sector managers responsible for emergency management
- Industrial emergency responders (fire and hazardous materials)
- Institutional emergency planners (schools, hospitals and prisons)
- Business continuity planners (banking, manufacturing, insurance and corporations)
- Individuals from nonprofit agencies

What Is The Course Delivery Option?

Students and instructors will meet face-to-face three weekends each semester (Friday evening and all day Saturday). Courses will be held in Green Bay. See our website, www.uwgb.edu/em/, for hotels and motels close to the course site.

How Long Will It Take To Complete The Certificate?

The certificate can be completed in two years.

Admission Requirements

Graduate credit can be earned if you are a holder of a baccalaureate degree from an accredited institution. Admission to the University is required for certificate program participants. If you have attended UW-Green Bay, you must re-apply unless you have been enrolled during the preceding semester. The application form is posted on our website (www.uwgb.edu/em/) or you can receive one by calling us. For further information call (800) 892-2118, and ask for Kassie VanRemortel for assistance.

Course Descriptions

Biology (BIOLOGY)

Courses

BIOLOGY 510. Plant Biodiversity. 4 Credits.
An introduction to the diversity of vascular plants, with an emphasis on flowering plants. Lectures cover both organismal and phylogenetic/evolutionary perspectives on plant systematics, including the use of genetic and genomic data for understanding plant evolution. The laboratory presents a survey of vascular plant diversity, covering structural characteristics of major plant families and the identification of seed plants of Wisconsin to the species level.
P: graduate status
Spring Even.

BIOLOGY 511. Plant Physiology. 4 Credits.
General physiology of vascular plants within the context of a plant life cycle: seed dormancy and germination, metabolism, transport systems, mineral nutrition, patterns of plant growth and development, growth regulators, reproduction and senescence.
P: gr st.
Fall Only.

BIOLOGY 512. Mycology. 4 Credits.
Broad taxonomic survey of fungi. Morphology, reproduction, physiology, genetics, evolution, and ecology. Role in nutrient cycling, plant disease, human welfare and biotechnology. Techniques in collection, identification, pure culture isolation, and nucleic acid applications.
P: gr student
Fall Odd.

BIOLOGY 520. Field Botany. 3 Credits.
Identification and natural history of plants indigenous to northeastern Wisconsin.
P: graduate status
Fall Only.

BIOLOGY 522. Environmental Microbiology. 4 Credits.
This course will focus on the diversity and role of microorganisms in diverse and complex environments, including the use and management of these organisms for the benefit of ecosystems and society.
P: graduate status
Spring.

BIOLOGY 541. Ichthyology. 4 Credits.
An examination of the biology of fishes including classification, phylogeny, functional morphology and population characteristics. Aspects of the ecology of the fishes will be studied in relation to behavior, distribution, diversity and production in freshwater environments
Spring Even.

BIOLOGY 542. Ornithology. 3 Credits.
Overview of avian biology, emphasizing adaptation and ecology. Identification of North American bird species and other avian families. Region's most interesting birding areas.
P: graduate status
Spring Even.

BIOLOGY 543. Mammalogy. 3 Credits.
Comprehensive study of mammals, including systematics, anatomy, physiology, behavior, and ecology. Laboratory studies include work with specimens from the Richter Natural History Museum.
P: gr st.
Spring Odd.

BIOLOGY 555. Entomology. 4 Credits.
Structure, function, diversity, and ecology of insects, as well as their impact on human society. Lab develops ability to identify Wisconsin insects, both in the field and by examining microscopic anatomy.
P: graduate status
Fall Odd.

BIOLOGY 557. Marine Biology. 4 Credits.
The Ocean covers about 71% of the Earth’s surface and so is obviously a huge part of the functioning biosphere. Life emerged in the Ocean but since we are terrestrial beings, Ocean life remains less well known than terrestrial life. This course serves as an overview of marine biodiversity and marine ecosystems in which the concepts learned in general biology courses can be applied to marine life. We will cover the abiotic functioning of the Ocean in order to understand the unique challenges that marine organisms face, and we will focus on an understanding of the diverse array of marine organisms, how they interact ecologically, and how humans are affecting marine ecosystems worldwide.
Fall Even.

BIOLOGY 601. Fish and Wildlife Population Dynamics. 3 Credits.
The course will introduce students to principles of population ecology and how such principles relate to basic models of wildlife and fish population dynamics. This course will also give students practical experience manipulating population dynamics models using computer applications.
P: BIOLOGY 203. REC: ENV SCI 302
Spring Odd.

BIOLOGY 602. Advanced Microbiology. 4 Credits.
Detailed study of microorganisms from viruses to fungi in their environment. Study of both free-living and pathogenic organisms and their degrading abilities.
P: gr st.
Spring Even.

BIOLOGY 607. Molecular Biology. 3 Credits.
Molecular approaches to biological problems, emphasizing study of informational macro molecules. Topics include replication, control, expression, organization, and manipulation of genes; RNA processing; protein processing; transposons; oncogenies, growth factors; genetic control of development and the immune system.
P: graduate status
Spring Odd.

BIOLOGY 608. Molecular Biology Laboratory. 1 Credit.
Molecular biology of nucleic acids and the techniques that form the basis of biotechnology. Topics include electrophoresis, restriction mapping, hybridization, plasmid analysis, and DNA cloning (recombinant DNA library construction, screening, and mapping).
P: graduate status
Spring Odd.

BIOLOGY 699. Travel Course. 1-6 Credits.
Travel courses are conducted to various parts of the world and are led by one or more faculty members. May be repeated to different locations.
P: cons of instr & prior trip arr & financial deposit.

Business Administration (BUS ADM)

Courses

BUS ADM 589. Organizational Behavior. 3 Credits.
A micro organizational behavior course examining motivation, leadership, job satisfaction, learning, group dynamics, and stress in the organizational setting.
P: gr st.
Fall and Spring.

BUS ADM 646. Advanced Corporation Finance. 3 Credits.
Short-term and long-term financial decisions under risk and uncertainty; financial analysis planning and control; in-depth coverage of theories and applications of capital structure, cost of capital, dividend policies; working capital management; long-term financing decisions; valuation of mergers and acquisitions; international capital budgeting.
P: gr st.
Fall and Spring.

BUS ADM 662. Seminar in Human Resource Management. 3 Credits.
Analysis of human resource problems and issues and their translation into corporate policies; urban, cultural and legal realities in human resource matters; decisions affecting the development and management of human resource policies.

Chemistry (CHEM)

Courses

CHEM 520. Thermodynamics and Kinetics. 3 Credits.
Temperature, heat and work, thermodynamic properties of gases, solids and solutions; homogeneous and heterogeneous equilibria; thermodynamics of electrochemical cells; statistical thermodynamics; calculation of thermodynamic properties; chemical kinetics.
P: graduate status
Fall Only.

CHEM 522. Therymodynamics and Kinetics Laboratory. 1 Credit.
Laboratory course to accompany Chem 520.
P: gr st; and Chem 520 or conc enr
Fall Only.

CHEM 530. Biochemistry. 3 Credits.
Nature and function of the important constituents of living matter, their biosynthesis and degradation; energy transformation, protein synthesis and metabolic control.
P: gr st.
Fall Only.

CHEM 531. Biochemistry Laboratory. 1 Credit.
Laboratory course to accompany Chem 530.
P: gr st.
Fall Only.

CHEM 602. Advanced Organic Chemistry. 3 Credits.
Physical organic approach to chemistry; reaction mechanisms, molecular orbital theory, conservation of orbital symmetry, aromaticity, stereochemistry, linear free energy relationships, isotopes effects, pericyclic reactions, photochemistry, natural products and advanced topics in molecular spectroscopy.
P: gr st.
Fall Odd.

CHEM 603. Advanced Organic Chemistry Laboratory. 1 Credit.
Laboratory course to accompany Chem 602; advanced molecular spectroscopy, organic qualitative analysis, physical organic chemistry experiments.
P: Chem 602 or conc enr.
Fall Odd.

CHEM 613. Instrumental Analysis. 4 Credits.
Theory and practice of analysis by instrumental methods, including methods based on absorption and emission of radiation, electroanalytic methods, chromatographic methods and radiochemical methods.
P: gr st.
Fall Only.

CHEM 617. Nuclear Physics and Radiochemistry. 3 Credits.
Properties and reactions of atomic nuclei; application of the properties of radioactive nuclei to the solution of chemical, physical, biological and environmental problems.
P: gr st.
Spring Even.

Computer Science (COMP SCI)

Courses

COMP SCI 651. Database Management Systems. 3 Credits.
Relational database technology, structured query language, experience on both mainframe and PC databases, security, integrity rules, design issues, normal forms, and entity-relation modeling.
P: gr st.
Fall Only.

Data Science (DS)

Courses

DS 700. Foundations of Data Science. 3 Credits.
This course provides an introduction to data science and highlights its importance in business decision making. It provides overview of commonly used data science tools along with spreadsheet, database, statistics and programming assignments to lay the foundation for data science applications.
Fall and Spring.

DS 705. Statistical Methods. 3 Credits.
Statistical methods and inference procedures will be presented in this course with an emphasis on applications, computer implementation, and interpretation of results. Topics include simple and multiple regression, model selection, correlation, moderation/interaction analysis, logistic regression, chi-square test, ANOVA, Kruskal-Wallis test, MANOVA, factor analysis, and canonical correlation analysis.
Fall and Spring.

DS 710. Programming for Data Science. 3 Credits.
Introduction to programming languages and packages used in Data Science.
Fall and Spring.

DS 715. Data Warehousing. 3 Credits.
Introduces the concepts and techniques to work with and reason about subject-oriented, integrated, time-variant, and nonvolatile collections of data in support of management’s decision-making process.
Fall and Spring.

DS 730. Big Data: High-Performance Computing. 3 Credits.
This course will teach students how to process large datasets efficiently. Students will be introduced to non-relational databases. Students will learn algorithms that allow for the distributed processing of large data sets across clusters.
P: DS 710
Fall and Spring.

DS 735. Communicating About Data. 3 Credits.
This course will prepare you to master technical, informational and persuasive communication to meet organizational goals. Technical communication topics include a study of the nature, structure and interpretation of data. Informational communication topics include data visualization and design of data for understanding and action. Persuasive communication topics include the study of written, verbal and nonverbal approaches to influencing decision makers.
Fall and Spring.

DS 740. Data Mining. 3 Credits.
Data mining methods and procedures for diagnostic and predictive analytics. Topics include association rules, clustering algorithms, tools for classification, and ensemble methods. Computer implementation and applications will be emphasized.
P: DS 705, DS 710
Fall and Spring.

DS 745. Visualization and Unstructured Data Analysis. 3 Credits.
This course covers two aspects of data analytics. First, it teaches techniques to generate visualizations appropriate to the audience type, task, and data. Second, it teaches methods and techniques for analyzing unstructured data – including text mining, web text mining and social network analysis.
P: DS 700, DS 705, DS 710, DS 740
Fall and Spring.

DS 760. Ethics of Data Science. 3 Credits.
This course explores ethical issues related to data science, including privacy, intellectual property, security, and the moral integrity of inferences based on data.
P: DS 700 or DS 780
Fall and Spring.

DS 775. Prescriptive Analytics. 3 Credits.
This course covers procedures and techniques for using data to inform the decision-making process. Topics include optimization, decision analysis, game theory, simulation, and others as time allows. Case studies and applications will be emphasized.
P: DS 705
Fall and Spring.

DS 780. Data Science and Strategic Decision Making. 3 Credits.
The course will investigate the use of data science findings to develop solutions to competitive business challenges. Case studies will be reviewed to examine how data science methods can support business decision-making. A range of methods the data scientist can use to get people within the organization onboard with data science projects will be reviewed.
Fall and Spring.

DS 785. Capstone. 3 Credits.
Capstone course in which students will develop and execute a project involving real-world data. Projects will include: formulation of a question to be answered by the data; collection, cleaning and processing of data; choosing and applying a suitable model and/or analytic method to the problem; and communicating the results to a non-technical audience.
P: DS 700, DS 705, DS 710, DS 715, DS 730, DS 735, DS 740, DS 745, DS 775
Fall and Spring.

Economics (ECON)

Courses

ECON 602. Environmental and Resource Economics. 3 Credits.
Applications of tools such as cost-benefit analysis and other economic concepts in current public decision making, with special emphasis upon common property resources management.
P: gr st.
Fall and Spring.

ECON 612. Economics of Sustainability. 3 Credits.
Exploration of the economic conditions for, requisites of, and policy to encourage social, ecological and economic sustainability.
P: gr st.
Spring.

ECON 653. Cost Benefit Analysis. 3 Credits.

Education (EDUC)

Courses

EDUC 515. Teaching English as a Second Language. 3 Credits.
Basic methods of teaching English to non-native speakers and the underlying theories from linguistics, psychology, education and sociolinguistics; development and evaluation of lessons for the ESL classroom.
P: gr st.
Fall Only.

EDUC 519. Adolescent Literature in Middle and Secondary School Reading. 3 Credits.
Design and content of effective adolescent literature programs; analysis and evaluation of adolescent literature; current practices in literacy curricula; adolescent literature and personal development; literature and social issues.
P: gr st.
Spring Odd.

EDUC 540. Introduction to Learning Disabilities and Emotional Disturbance. 3 Credits.
This course will provide students with the history, definitions, etiology, methodology and programming options for students with learning and/or emotional disabilities.
P: gr st.

EDUC 541. Normal and Abnormal Language Development. 3 Credits.
Introduction to communication and normal and abnormal language development in relationship to cognitive development.
P: gr st.

EDUC 542. Teaching Methods for Diverse Learners. 2 Credits.
A study of instructional methods and materials for teaching diverse learners.
P: gr st.
Fall Odd.

EDUC 543. Educational Assessment. 2 Credits.
This course will focus on the study of the principles, procedures, interpretation, and administration of formal and informal student assessment.
P: gr st.
Fall Odd.

EDUC 544. Principles of Career and Vocational Education. 1 Credit.
This course will focus on the study of curriculum and instructional approaches that contribute to the preparation for the world of work.
P: gr st.
Fall Odd.

EDUC 545. The Exceptional Child in Regular Education. 2 Credits.
This course will focus on the study of instructional techniques and programming options designed to increase the success of students learning and/or behavior disabilities served within inclusionary settings. P: gr st.
P: gr st.

EDUC 546. Collaborative Strategies for Working w/Colleagues, Parents, Community. 2 Credits.
This course will focus on the study of collaborative models and practices used within a variety of educational and relevant community settings and help students to develop the communications skills necessary to interact effectively with individuals in schools, agencies, and the community. P: gr st.
P: gr st.

EDUC 547. Classroom and Behavior Management Strategies. 2 Credits.
This course will address various theories and models for organizing and maintaining an effective classroom as well as strategies for working with individuals and groups. P: gr st.
P: gr st.

EDUC 552. Social and Family Influences on Development and Learning. 3 Credits.
An ecological systems approach to understanding social and family influences that affect success or failure in the first years of school. Includes discussion of recent child development and education risk theories, research, and practitioner accounts. Survey of effective prevention and intervention programs for young children (prenatal - 8 yrs.) and families at-risk.
P: graduate status
Spring.

EDUC 606. Evaluation and Testing in Education. 2-3 Credits.
Techniques for constructing tests and measurement systems; statistical procedures applied to classroom data; monitoring and assessing individual and group learning situations; using and interpreting data from standardized tests. P: gr st. (SO)
P: gr st.
Spring Odd.

EDUC 615. Counseling Role of the Classroom Teacher. 3 Credits.
Specific counseling and guidance skills necessary for guidance effectiveness of the classroom teacher and their implementation in the classroom. P: gr st.
P: gr st.

EDUC 620. Workshop in Economics Education. 1-3 Credits.
Workshop is designed to provide information on selected current economic topics and concepts; enables educators to examine new print and non-print instructional materials and curriculum guides; and develop learning activities appropriate to their instructional responsibilities. Different topics are selected each year for focus. Topic will be identified by subtitle with each offering. May be repeated for credit. P: May be repeatable for credit. None.

EDUC 621. Literacy and Language Development in Young Children. 3 Credits.
Acquisition of reading skills and development of language in preschool through primary grades; analysis of instructional and diagnostic strategies for listening and reading comprehension, vocabulary development, word identification strategies and approaches to beginning reading. P: gr st. (F,S)
P: gr st.
Fall and Spring.

EDUC 622. Reading in the Content Areas. 3 Credits.
Practical guidelines for classroom teachers in subject areas--English, social studies, mathematics, science, etc.; suggestions for teaching reading and study skills related to content, specialized and technical vocabulary; dealing effectively with reading problems in the content areas as it relates to the Common Core State Standards (CCSS).
P: graduate status
Fall and Spring.

EDUC 646. Trends in Bilingual Education. 3 Credits.
Designed for pre-service teachers and practicing educators, this course is a comprehensive approach to the current trends in Bilingual Education (Spanish/English) that bridges pedagogical theory and practice. Students will be introduced to essential concepts and theories, including effective teaching methodologies, curriculum design and assessment tools. This course will help students develop a sociocultural perspective about the contexts and realities of bilingual learners.
Spring.

EDUC 652. Principles of Middle Level Education. 3 Credits.
This course provides students with an introductory understanding of the philosophy and organization of middle level education. Emphasis is directed toward programmatic considerations. P: gr st and exper in educ. (F,S)
P: gr st and exper in educ.
Fall and Spring.

EDUC 699. Travel Course. 1-6 Credits.
Travel courses are conducted to various parts of the world and are led by one or more faculty members. May be repeated to different locations.
P: cons of instr & prior trip arr & financial deposit.

EDUC 701. Reflective Inquiry. 4 Credits.
Participants will gain knowledge, skills and dispositions appropriate to engage in systematic oral and written reflection on their educational practice and the role of classroom-based inquiry.
P: gt st and adm to Ms Tch Lrn.
Fall Only.

EDUC 702. Approaches to Educational Inquiry. 4 Credits.
Participants will gain relevant knowledge, skills, and dispositions regarding approaches to inquiry and educational research related to specific areas and questions.
P: EDUC 701 and gr st and adm to MS TCH LRN
Spring.

EDUC 703. Contemporary Issues and Historical Contexts. 4 Credits.
Participants will share the challenges and questions as they progress with their individual research projects. Course content will support the development of knowledge related to educational research within a multiple perspective approach.
P: EDUC 702 and gr st and adm to MS TCH LRN
Fall Only.

EDUC 704. Applied Educational Leadership. 3 Credits.
Participants will gain knowledge, skills, and dispositions in leadership, educational reform, and systems theory. Course content will focus on the environments and processes that lead to meaningful change, and the design of an individual plan.
P: EDUC 703 and gr st and adm to MS TCH LRN
Spring.

EDUC 705. Reading in the Elementary School. 3 Credits.
Consideration of components of a developmental reading program for the elementary school including the role of language in reading, basic reading skills and attitudes, methods and materials, individualization of instruction, and evaluation. P: gr st.
P: graduate status.

EDUC 706. The Administrator and the Community. 3 Credits.
This course will concentrate on the relationship of schools and communities in American society. Students will be oriented to the relationships between schools and communities; public participation in local school districts, and response of local school districts to changing demands. Primary emphasis will be on the school administrator and citizens at the local level. P: gr st.
P: graduate status.

EDUC 709. Effective Schools. 3 Credits.
An in-depth review and analysis of the growing body of educational research literature that identifies elements and conditions present in effective schools. Participants develop ways of assessing the extent to which these elements are present in schools and explore implications for school practices. P: gr st.
P: graduate status.

EDUC 710. Practicum in Effective Instructional Skills. 2 Credits.
For teachers and supervisors currently involved in schools: analysis and application of effective teaching concepts and skills, including teacher demonstrations and simulations. P: gr st.
P: graduate status.

EDUC 714. Workshop in High School Program Development. 2 Credits.
Selected topics for the professional educator in curriculum, instructional procedures, and evaluation of middle level program development. Current issues, philosophical trends, and rationale are discussed. Variable content; may be repeated for credit with different topics. P: May be repeatable for credit. gr st.
P: graduate status.

EDUC 715. Workshop in Program Development in Middle Level Education. 2-3 Credits.
Selected topics for the professional educator in curriculum, instructional procedures, and evaluation of middle level program development. Current issues, philosophical trends, and rationale are discussed. P: May be repeatable for credit. gr st.
P: graduate status.

EDUC 716. PROGRAM DEVEL MID LEV EDUC. 2-3 Credits.
P: gr st.
P: graduate status.

EDUC 730. Issues & Trends for Educating Students w/Exceptional Educ Needs. 3 Credits.
Relevant issues and practices which impact the education of students with exceptional needs including gifted and talented, handicapped, and at-risk populations. P: gr st.
P: graduate status.

EDUC 740. Supervision of Instruction. 3 Credits.
This graduate class examines functions of supervision, inclusive of personnel evaluation and professional development. Skill development in communications and human relations for school supervisors are included. P: gr st.
P: graduate status.

EDUC 750. Statistical Methods Applied to Education. 3 Credits.
Types of measures, data organization and display, measures of central tendency, variability, location, and correlation, hypothesis testing and interval estimation for common statistics in one and two sample cases. Introduction to analysis of variance and chi-square. P: gr st. (FO)
P: graduate status
Fall Odd.

EDUC 765. Diagnosis of Reading Difficulties. 3 Credits.
Comprehensive and accurate diagnosis of moderate to severe reading disabilities and associated learning, language, or behavior disorders through the use of formal and informal instruments. Students complete an intensive diagnosis of a student's reading ability, a comprehensive report specifying the results of the evaluation, and a prescription for future remediation of reading problems. P: gr st; REC: Adm Sci 753. (SE)
P: gr st; REC: Adm Sci 753.
Spring Even.

EDUC 780. Foundations of Curriculum. 3 Credits.
This course for experienced educators will focus on the philosophical, sociological, historic and psychological underpinnings of curriculum design, development and evaluation for the elementary, secondary and VTAE educator. The course will examine the forces influencing curriculum development and identify issues related to curriculum design and development. P: gr st and exper with elem, sec or WTCS educ.
P: gr st and exper with elem, sec or WTCS educ.

EDUC 781. School Profiling for Site Based Management. 3 Credits.
The purpose of this course is to train teachers and principals to gather, summarize, and analyze data related to important building level educational outcomes. Outcomes in the area of student achievement, social behaviors, and parent, staff, and student attitudes will be measured and analyzed. The course is intended to facilitate school improvement at the building level through data driven decision making. P: gr st.
P: graduate status.

EDUC 783. SELECTED TOPICS. 1-4 Credits.
P: May be repeatable for credit. gr st.
P: graduate status.

EDUC 785. Curriculum and Instruction as a Field of Inquiry. 3 Credits.
An inquiry approach to the content of curriculum and instruction: develops skills in interpreting and using research and provides a framework related to origin, development, and basis of curriculum and instruction. P: gr st.
P: graduate status.

EDUC 786. Current Issues and Trends in Education. 3 Credits.
This class critically examines and evaluates recent educational innovations, differing educational viewpoints, and alternative educational trends. Particular attention is focused on educational practices for the future. P: gr st. (F)
P: graduate status
Fall Only.

EDUC 788. The Teacher and the Law. 3 Credits.
Concerns of teachers relating to tenure, non renewals, due process, free speech, student rights, and potential liability; the administration of collective bargaining in education; brief introduction to the statutory regulation and financing of school systems. This course will consider these topics with an emphasis on Wisconsin. P: gr st.
P: graduate status.

EDUC 795. Special Topics. 1-4 Credits.
A course offered by graduate faculty in response to a special need and which is not intended to become a regular part of the graduate curriculum. The title of the specific topic is announced in the Timetable and is entered on the transcript of students who enroll. This course may be repeated with a change in topic. Subject to adviser's approval, three credits may be applied to meet UW-Green Bay credit requirements in a cooperative program with the possibility of a maximum of three additional credits. P: May be repeatable for credit. gr st.
P: graduate status.

EDUC 797. Internship. 1-6 Credits.
P: May be repeatable for credit. gr st. (F,S)
P: graduate status
Fall and Spring.

EDUC 798. Independent Study. 1-3 Credits.
Reading and research under the supervision of a member of the graduate faculty. Independent study credits may only be earned when included as part of an approved program plan. P: May be repeatable for credit. gr st. (F,S)
P: graduate status
Fall and Spring.

EDUC 799. Thesis. 1-6 Credits.
P: May be repeatable for credit. None.

Environmental Science & Policy (ENV S&P)

Courses

ENV S&P 701. Perspectives in Environmental Science and Policy. 1 Credit.
Introduces new Environmental Science & Policy graduate students to program requirements, expectations, resources, and faculty members.
P: graduate status
Fall and Spring.

ENV S&P 713. Environmental & Natural Resource Economics. 3 Credits.
Addresses public policy issues related to energy and other natural resources from the perspective of environmental economics. Topics include fossil energy, nuclear energy, solar and other alternative sources of energy; natural resources ranging from soil, water and minerals to wildlife, forests and parks.
P: gr st; REC: Pu En Af 608 and Env S&P 752.
Fall Even.

ENV S&P 715. Seminar in Ecology and Evolution. 1 Credit.
This graduate course provides a forum for discussion of contemporary ideas in ecology and evolution. Students and faculty discuss weekly readings in an informal atmosphere. Topics are chosen from the current scientific literature; examples from recent semesters include ecosystem stability, competition and coexistence, group selection, trophic dynamics, and complex species interactions.
P: gr st.
Fall and Spring.

ENV S&P 724. Hazardous and Toxic Materials. 3 Credits.
The handling, processing, and disposal of materials which have physical, chemical, and biological properties that present hazards to human, animal, and plant life; procedures for worker safety and for compliance with regulations. The metals and nonmetals, carcinogens, radioactive materials, and pathogenic human, animal, and plant wastes.
P: Graduate status
Spring Odd.

ENV S&P 740. Ecology and Management of Ecosystems. 3 Credits.
This course addresses our current scientific understanding of ecosystems, and the application of this knowledge for the sustainable management of both human dominated and natural ecosystems and the biodiversity that they support.
P: gr st.
Spring Even.

ENV S&P 743. Landscape Ecology. 3 Credits.
Landscape ecology emphasizes spatial patterning and focuses on ecological dynamics over large regions. Concepts and methods will be studied through lectures, readings, discussions, and practical applications. Prior experience with specific computer programs not required.
P: gr st; REC: prior cse in ecological studies and statistics.
Spring Odd.

ENV S&P 749. Wetland Ecology and Management. 3 Credits.
Ecological processes and characteristics of wetlands such as primary productivity, hydrology, decomposition and nutrient dynamics are studied. Wetland classification and delineation systems are examined and applied in the field. Management practices and potential as well as current approaches to values assessment are addressed.
P: gr st.
Fall Even.

ENV S&P 752. Environmental Policy and Administration. 3 Credits.
The political and institutional aspects of environmental policy-making and implementation, including issues in environmental policy analysis. Emphasis is on national policy processes in the United States, but attention is given also to global and state and local environmental problems and public policy.
P: gr st.
Fall Odd.

ENV S&P 755. Environmental Data Analysis. 4 Credits.
This course emphasizes the principles of data analysis using advanced statistical software (such as R, SAS, etc.). It employs primarily environmental examples to illustrate procedures for elementary statistical analysis, regression, analysis of variance and nonparametric statistics.
P: intro stats cse and grad st.
Fall Only.

ENV S&P 760. Social Research Methods. 3 Credits.
Theory and methods of research in the social sciences. Topics include the philosophy of science, research designs, data collection and program evaluation. Emphasis is on applied research.
P: graduate status
Fall Odd.

ENV S&P 762. Project Proposal. 3 Credits.
Provides opportunities to identify, develop and refine the non-thesis project proposal. Focuses on key aspects of the proposal including the project statement, expectations, deliverables, and abstract. Culminates in the submission of Approval of Thesis or Project Proposal (GR-2 Form).
P: major in Ms Env Sci
Spring.

ENV S&P 763. Capstone in Environmental Science and Policy. 3 Credits.
Capstone course of the program in Environmental Science and Policy. This course provides an overview of contemporary topics in global environmental change from the local to global scale, with emphasis placed on scientific evidence, policy approaches, public attitudes, and sustainable solutions. Both policy and scientific aspects of the topics are addressed.
P: major in Ms Env Sci and grad earned cr > or = 17.
Spring.

ENV S&P 767. Environmental Technology and Analysis. 3 Credits.
This course addresses our current scientific understanding of environmental remediation, waste transformation, utilization and disposal, as well as the chemical, biological and geological aspects of ground or surface water systems. Emphasis is on evaluating alternative technologies and strategies for generating ecologically sustainable systems.
P: enrollment in ES&P graduate program or instructor approval
Spring Odd.

ENV S&P 768. Project Defense. 3 Credits.
This is the defense of the non-thesis project. Course activities include the presentation of non-thesis projects at an open symposium and the successful submission and approval of the final non-thesis project. Students also take the programmatic Written Examination required for completion of the non-thesis degree plan. The course culminates in the submission of Approval of Thesis Defense or Project Presentation (GR-4 Form).
P: major in MS Env Sci; Completion of ENV S&P 764
Spring.

ENV S&P 783. VARIABLE CONTENT. 1-4 Credits.
P: gr st.

ENV S&P 795. Special Topics. 1-3 Credits.
P: gr st.

ENV S&P 797. Internship. 1-6 Credits.
P: gr st.
Fall and Spring.

ENV S&P 798. Independent Study. 1-3 Credits.
P: gr st.
Fall and Spring.

ENV S&P 799. Thesis. 1-6 Credits.
P: gr st and thesis proposal on file.
Fall and Spring.

Environmental Science (ENV SCI)

Courses

ENV SCI 505. Environmental Systems. 4 Credits.
Physical and chemical aspects of natural environmental processes. The movement, transformation, and fate of materials and contaminants.
P: gr st.
Fall Only.

ENV SCI 518. Pollution Control. 3 Credits.
Government regulations, manufacturing processes, waste minimization, pollution prevention methods and pollution control techniques of major industries.
P: gr st.
Fall Only.

ENV SCI 520. The Soil Environment. 4 Credits.
The physical, chemical and biological properties and principals of soils; formation, classification and distribution of major soil orders; function and management of soils in natural, agricultural and urban environments. Includes field and laboratory experiences.
P: gr st.
Fall Only.

ENV SCI 523. Pollution Prevention. 3 Credits.
Emphasizes principles of pollution prevention and environmentally conscious products, processes and manufacturing systems. Also addresses post-use product disposal, life cycle analysis, and pollution prevention economics.
P: gr st.
Spring Odd.

ENV SCI 530. Hydrology. 3 Credits.
Qualitative study of the principal elements of the water cycle, including precipitation, runoff, infiltration, evapotranspiration and ground water; applications to water resource projects such as low flow augmentation, flow reregulation, irrigation, public and industrial water supply and flood control.
P: gr st.
Fall Only.

ENV SCI 535. Water and Waste Water Treatment. 3 Credits.
Water and waste water treatment systems, including both sewage and potable water treatment plants and their associated collection and distribution systems. Study of the unit operations, physical, chemical and biological, used in both systems.
P: gr st.
Spring.

ENV SCI 537. Environmental GIS. 2 Credits.
This is a project based course where students conduct geospatial data manipulation, analysis and management with a suite of GIS software tools and web-based GIS interfaces. Students will learn about a range of applications of remotely sensed and other geospatial data to natural science problems. Through the course project, students will create a functional GIS to study or model an environmental phenomena or problem.
P: Graduate status and previous GIS experience
Fall and Spring.

ENV SCI 601. Stream Ecology. 4 Credits.
The goal of this course is to develop a profound understanding of the abiotic and biotic processes responsible for shaping the ecosystem in running waters. Focus will be on ecological processes, but nutrient dynamics and fluid mechanics are also important issues as well as the fauna associated to the streambed, mainly macro invertebrates and their ecological role. Theory will be combined with hands on experience providing the student with a tool to manage a stream based on ecological principles.
P: gr st.
Fall Even.

ENV SCI 615. Solar and Alternate Energy Systems. 3 Credits.
Study of alternate energy systems which may be the important energy sources in the future, such as solar, wind, biomass, fusion, ocean thermal, fuel cells and magneto hydrodynamics.
P: gr st.
Spring Even.

ENV SCI 621. Geoscience Field Trip. 1-3 Credits.
Intensive three or four-day field study tour of the geology, soils, and landscapes of Wisconsin and/or surrounding states. Each offering will focus on a different geological theme and will focus on a specific region. Cost of transportation, guidebook, meals, and lodging borne by student.
P: graduate status
Fall and Spring.

ENV SCI 624. Hazardous and Toxic Materials. 3 Credits.
The handling, processing, and disposal of materials which have physical, chemical, and biological properties that present hazards to human, animal, and plant life; procedures for worker safety and for compliance with regulations. The metals and nonmetals, carcinogens, radioactive materials, and pathogenic human, animal, and plant wastes.
P: Graduate status
Spring Odd.

ENV SCI 625. Global Climate Change. 3 Credits.
Examines changes in global climate with emphasis on the processes by which climate change occurs. Focuses on the recent changes in the concentration of atmospheric greenhouse gases and their impact on the earth's global energy budget. Examines the potential environmental impact of a changed climate.
P: Graduate Standing
Spring.

ENV SCI 632. Hydrogeology. 3 Credits.
Introduction to the geological and physical principles governing ground water flow. Description of aquifer properties, chemical processes, equation of flow, well hydraulics, and environmental concerns.
P: gr st.
Spring.

ENV SCI 633. Ground Water: Resources and Regulations. 3 Credits.
An overview of the geology, properties, flow, and pollution of ground water systems. Techniques of aquifer characterization and water quality monitoring are introduced and evaluated. Regulatory and policy approaches to moderate use and ensure adequate high quality supplies of this valuable resource in the future are also reviewed.
P: graduate status
Fall Even.

ENV SCI 634. Environmental Chemistry. 3 Credits.
Physical, chemical, and biological processes affecting the composition of air and water. Chemical reactions in polluted, and unpolluted environments; dispersal processes and methods of control for various pollutants.
P: graduate status
Fall Only.

ENV SCI 660. Resource Management Strategy. 3 Credits.
Application of the principles of systems analysis to the sustainable use of material and energy resources. Emphasis on use of analytical tools of economics (e.g. costs-benefit, cost-effectiveness, and risk-benefit analysis) and the process of public policy making and implementation.
P: gr st.
Fall and Spring.

ENV SCI 664. Atmospheric Pollution and Abatement. 3 Credits.
This course will provide students an understanding of atmospheric processes and weather patterns and how they affect pollutant transport. Sources, sinks, environmental effects, and abatement technologies for air pollutants will be addressed. Atmospheric reactions that create pollution or deplete stratospheric ozone will be included.
P: Graduate status
Fall Odd.

ENV SCI 669. Conservation Biology. 4 Credits.
Overview of the major issues and ecological principles underlying the field of conservation of biology, including patterns and measurement of biological diversity from genetic to community scales.
P: graduate status
Fall Only.

ENV SCI 699. Travel Course. 1-6 Credits.
Travel courses are conducted to various parts of the world and are led by one or more faculty members. May be repeated to different locations.
P: cons of instr & prior trip arr & financial deposit.

First Nations Education (FNED)

Courses

FNED 800. Introduction to Indigenous Education. 3 Credits.
This introductory course provides foundational knowledge for the doctoral program in First Nations Education. The course explores the traditional (precontact) world views of the Indigenous peoples of Turtle Island (North America) with an emphasis on the Nations now located in the western Great Lakes. The course begins with an overview of Indigenous emergence beliefs and practices. First Nations ecological knowledge is central to the course with a focus on original instructions and the traditional relationships of humans to the natural world. Intergenerational teaching and learning in the Four Hills of Life are introduced. Indigenous languages are examined throughout the class with an understanding of the relationship between language and world view. The course further examines the impact of Euro-American colonization on First Nations people, lifeways, and the environment. The impact of colonization on Indigenous social identities is explored with an examination of how colonization disrupted traditional understandings and the intersectionality of citizenship, gender, age, and ability. Decolonization is presented and explored in an effort to re-center Indigenous knowledge systems, educational practices, and ways of being to prepare the path for future generations.
P: Acceptance into the First Nations Education Doctoral Program.

FNED 801. Ancestral Leadership Ways of Leadership. 3 Credits.
This course in education leadership provides an in-depth examination of Indigenous governance and leadership in the tribal world. Sovereignty is a foundational concept for this course and is presented both as a governmental principle and an individual value practiced in daily life. The course begins with a survey of the ancient and historical governing structures of Indigenous people and examines leadership in multiple forms including traditional highly structured systems like that of the Nations of the Haudenosaunee to less formalized structures like those of the Anishinaabeg band system. The course examines the impact of Euro-American colonization and assimilation on traditional forms of leadership, governance, and the erosion of tribal sovereignty. The contemporary crisis in tribal leadership today is linked to colonial domination and the subordination of traditional Indigenous structures and value systems. The study and practice of traditional leadership offers an opportunity to decolonize contemporary structures by applying and practicing the ancient values and practices of consensus, distributive leadership, conflict resolution, and inclusiveness. This course prepares students to assume balanced leadership roles within their families, communities, and Nations.
P: FNED 800.

FNED 804. Indigenous Pedagogy. 3 Credits.
This is course focuses on First Nations pedagogy as educational theory, method, and practice. Students will study and take part in Elder epistemology/ Elder learning theories. Students will study the origin and nature of Indigenous knowledge systems and the processes through which Indigenous knowledge is acquired and transmitted. The epic narratives of Indigenous groups will be examined as examples of Indigenous knowledge production, critical thinking, problem solving, and praxis. Students will read and discuss Paulo Freire's seminal work Pedagogy of the Oppressed in order to gain a deeper understanding of critical pedagogy and the challenges of western educational structures and outcomes. The course is designed to prepare students to address persistent educational challenges facing First Nations people today including the education achievement gap, truancy, retention and graduation rates, etc. The Four Rs framework as developed and articulated by Rosemary Ackley Christensen at UW Green Bay is presented as a teaching method and practice applicable in any K-16 classroom. Thus, students will take part in Indigenous educational methods that practice the Four Rs core values of the tribal world - respect, reciprocity, responsibility, and relationship.
P: FNED 800.

FNED 805. Generational Healing. 3 Credits.
This is a course in health and wellness in Indigenous education. With Euro-American colonization, Indigenous people experienced trauma resulting from culmination of: disease, warfare, land loss, removals and relocations, deprivation (starvation, poverty, sexual violence, etc.), economic dependency, breakdown of ancient family structures and communities; imposition of western religion, language, healing methods, social systems, government, diet/foods; and the disconnection from the Earth and other living beings. The impact is experienced today among First Nations people, families, and communities as evidenced in social problems that were virtually non-existent in traditional times. This course explores unresolved historical grief syndrome, post-apocalyptic stress syndrome among First Nations people, and the recent scientific research on the impact of trauma on child development and learning. Students will examine the impact of trauma as those who have both experienced trauma and as agents. The course explores generational healing through the pairing of Indigenous and non-Indigenous approaches to holistic wellness.
P: Successful completion of the following courses: FNED 800, 804, 820.

FNED 807. Indigenous Inquiry. 3 Credits.
This is a course in Indigenous research methods. The course examines the distinct concepts, thought patterns, theories, research methods, and standards of Indigenous research. Students will explore Indigenous research paradigms as grounded in knowledge that is interconnected to all living beings. Thus, the course begins with an exploration or the original forms of understanding and ways of knowing of First Nations people and an in-depth study of the origin beliefs of varied Indigenous groups. Embedded within the examination of origin beliefs is a discussion of the varied forms of original instructions given to humans regarding their purpose and place in the universe. The course is concerned with the development of Indigenous research paradigms and prepares students to apply them in academic and other professional settings. Within this approach, inquiry is examined beyond the realm of the intellect and is viewed as holistic – one that unifies, mind, matter, spirit, and emotion. The course bridges oral traditional knowledge, Elder epistemology, with practical research methods and skills. Students will collectively envision and contribute to the growing academic knowledge base defining and shaping Indigenous research paradigms. The course prepares practitioners to conduct research with integrity and humility.
P: Admittance into the First Nations Education Ed.D. program; FNED 800 and FNED 804.

FNED 810. Philosophical and Theoretical Foundations of Leadership in Education. 3 Credits.
This is a shared, online required course in the UW System Ed.D. cooperative. This interdisciplinary course provides a foundation for the development of personal and professional leadership grounded in theory and reflective of the influence of social locations and identities. Through exposure to recognized education leaders, students will postulate the leadership principles that resonate in their fields of work and study. Students will engage in an interdisciplinary analyses of leadership theories and philosophies, and will examine ethical and professional responsibilities within their profession and communities.
P: Acceptance into the Ed.D. program.

FNED 820. Critical Analysis of Systemic Inequity: Social Justice Education. 3 Credits.
This course is an advanced and in-depth exploration of the issues of power and inequality in U.S. history including but not limited to racism, classism, sexism, homophobia, and linguicism. The historical survey of inequity becomes a foundation for addressing current issues from a variety of perspectives and possibilities. Key course concepts for social justice in education include cultural deficit frameworks, meritocracy, whiteness as social construct, color blindness and race neutrality, microaggressions, and the politics of epistemology. Students will examine historic and contemporary examples of educational institutions as mechanisms of social, political, and economic control. Examples will include U.S. American Indian boarding schools, school segregation, tracking, and vocational education. Students will engage in critical research, analysis, writing and development of programs in their field that strive to end oppressive practices and balance systemic inequities.
Acceptance into EdD program.

FNED 825. Relational Assessment. 2 Credits.
This course on education assessment draws upon Indigenous perspectives and prepares students to create their own assessment models based on an Indigenous paradigm. Educational assessment occurs in many forms. Educators and administrators must determine how they will use assessment as a tool for growth and change. Within any educational context key stakeholders must assess programs, departments, and student learning. The first step for each educator is to assess the educational context that they operate within. For Indigenous peoples, assessment may be bound by specific world views, historic contexts, and socio-economic conditions. The goals of any assessment can be created within the circle of a group of stakeholders who seek achieve specific outcomes. For this course, students will develop models to assess their specific educational context both individually and as part of a team. This course is organized around the examination of four foundational questions: • What is the educational context of your work? • How does your work impact Indigenous education? • What is Indigenous assessment? • How will you assess your learning community using an Indigenous paradigm?
P: FNED 800
Fall Only.

FNED 826. Grant Writing. 1 Credit.
This is a hands-on course in grant writing. Developing effective grant writing skills are essential to acquire competitive funding for governmental agencies and private foundations. Writing a successful grant proposal is a blend of art and science. It requires basic knowhow, content knowledge, writing proficiency, strong research skills, creativity, and organizational ability, and networking ability. One of the first lessons that will be learned is successful grants emerge from working effectively with others to draw out ideas, capture those ideas to create a program or a plan for research, show how the plan is what is needed to respond to the “Request for Proposals,” and package those ideas so that they make sense to the reviewers of the proposal. Grant writing is increasingly a team activity. Whether or not you obtain the funding is sometimes less important than the networking that you do as a part of developing a grant proposal. We will also explore the nuances of gathering and documenting data in First Nations communities, the importance of developing culturally competent evaluations, and the need for community input during the grant writing process. This course also provides students with the background necessary to develop a competitive funding proposal.
P: FNED 800.

FNED 830. First Nations Law and Policy. 3 Credits.
This course provides an in-depth study of First Nations law and federal Indian policy. The course begins with an examination of international laws of the contact era beginning with the Doctrine of Discovery and Right of Conquest. Treaty-making between the European and American government and First Nations people is examined to provide a foundation for understanding the current federal trust responsibility between tribes and the federal government. Federal Indian case law and congressional acts from the Marshall Trilogy through current rulings are examined in-depth with an emphasis on the impact of these laws and policies on First Nations people and communities. The course will also examine key policies in the history of Indian education, including: mission schools; tribally controlled schools; federal boarding schools; New Deal era reforms; public education; and self-determination.
P: FNED 800.

FNED 831. Qualitative Research Methods. 2 Credits.
This course explores a number of traditions of qualitative inquiry from both Indigenous and Western perspectives. The course begins with an overview of several methods of Western qualitative inquiry, with an emphasis on interpretive research methodologies, including interpretive phenomenology, (participatory) action research, and grounded theory. Interpretative methodologies are particularly suited to examining Indigenous ways of knowing given their reliance on narrative data and goal of interpreting the meaning-making of participants. Next, it introduces the growing body of Indigenous methods of qualitative inquiry and contrasts the two approaches. The course culminates with a research proposal where students identify a research question and select the approach most applicable to its examination while exploring potential areas for cultural bias and/or misunderstanding.
P: FNED 800.

FNED 832. Program Evaluation. 2 Credits.
Knowing how to work with evaluative data is essential to management of public-serving programs – to improve effectiveness, accountability, and even secure grants. This course enables students to develop a working understanding of and some key skills to conduct program evaluations and measure outcomes. Through readings, guided activities/tutorials/internet searches, and class discussions, students will learn the language and tools of the trade, including community assessment, needs assessment, process/formative evaluation, LEAN, outcome measurement, efficiency analysis, and impact evaluation. Students will learn how to identify program outcomes and set up logic models, essential skills for grant-seeking. We will discuss the political, social, and ethical considerations of conducting research in real-world settings. Cases and examples will be discussed and worked through including actual indigenous program evaluations. A highlight of the class is the opportunity for students to set up an actual comprehensive evaluation plan for an agency of their own choosing, obtain feedback, and refine the plan in preparation for actual implementation of their own evaluation.
REC: FNED 800.

FNED 834. Statistics Lab. 2 Credits.
This course will introduce students to statistical techniques with the intent that they will apply them to projects and classes in the Ed. D. in First Nations Education, in the careers they pursue, and in the larger communities. This class builds a bridge between indigenous perspectives and quantitative methodologies to assist students in becoming competent in understanding and interpreting statistical results presented in computer output, scholarly journals, grant applications, and authentic settings where data are presented. This course offers an approach to understanding statistics that reflects Indigenous worldviews with an emphasis on interconnection, statistics as present in the natural world, and storytelling and the oral tradition as a central element of statistical problem solving and the quantitative approach.
P: FNED 800, FNED 804, and FNED 807.

FNED 880. Special Topics in Indigenous Education. 3 Credits.
This is a variable content, doctoral level course in First Nations Education. Course is repeatable with change of topic.
P: FNED 800. REC: FNED 804.

FNED 898. Dissertation Project Seminar: Relational Knowledge and Praxis. 3-9 Credits.
Students enroll in dissertation seminar in year three. Students take 3 credits each term in fall, spring, and summer. This course meets face to face and with embedded field work. In the first term of the course, students prepare for and complete their individual written comprehensive exams and the all-cohort oral exam. Throughout the remainder of the course, in terms two and three, students build collaborative partnerships with communities and tribal partners to define an issue or problem. Students will examine the research literature and apply the findings of the literature to the issue. Students will design a project proposal addressing the issue. Students will prepare their dissertation project for UWGB IRB review and IRB review in the individual tribal communities, as appropriate. Each dissertation project must incorporate intergenerational learning. In other words, just as Ed.D. students have learned from oral traditional scholars throughout their coursework, they must, in turn, design a dissertation project that incorporates younger learners. Student can create an individual dissertation project. In addition, we will consider projects designed using the Ed.D. consultancy model and thematic groups model, whereby, students work to understand and address a problem in teams. At the end of year three and the completion of 9 dissertation seminar credits, students must successfully defend a written dissertation project proposal.
P: Successful completion of the following: FNED 800, 801, 804, 805, 807, 810, 820, 825, 826, 830, 831, 832, 834.

FNED 899. Dissertation Project. 3-6 Credits.
Students will continue working in the field, collaborating on a dissertation project that integrates and reflects individuals, families, organizations, communities, and Nations. Students working on the dissertation project will work independently as well as meet consistently with a dissertation advisor and in small groups with other dissertators. Students will complete the dissertation project. Students will prepare to defend the dissertation project outcomes.
P: Successful completion of FNED 898.

First Nations Studies (FNS)

Courses

FNS 699. Travel Course. 1-6 Credits.
Travel courses are conducted to various parts of the world and are led by one or more faculty members. May be repeated to different locations.
P: cons of instr & prior trip arr & financial deposit.

Geoscience (GEOSCI)

Courses

GEOSCI 632. Hydrogeology. 3 Credits.
Introduction to the geological and physical principles governing ground water flow. Description of aquifer properties, chemical processes, equation of flow, well hydraulics, and environmental concerns.
P: gr st.
Spring.

Graduate (GRADUATE)

Courses

GRADUATE 693. Thesis or Final Project Completion. 0 Credits.
Thesis or Final Project Completion for graduate programs.

Health & Wellness Management (HWM)

Courses

HWM 700. Contemporary Health and Wellness Perspectives. 3 Credits.
In this course, students will examine health and wellness concepts and probe foundational thinking associated with the contemporary health and wellness field. Expectations and development of the wellness professional will be explored.
Fall and Spring.

HWM 705. Strategic Management for Wellness Managers. 3 Credits.
This course introduces students to management concepts to create strategic direction and the role of leadership in setting strategy capable of meeting competitive challenges within the wellness industry. Topics include key management theories; role of stakeholders; issue identification; program evaluation; and business plan development.
Fall and Spring.

HWM 710. Research Methods for Wellness Programs. 3 Credits.
This course covers research methods and designs relevant to wellness program managers. Students will be introduced to various research designs including experimental and nonexperimental, as well as qualitative and quantitative methods. The course will focus on providing a practical understanding of several statistical tools used in wellness-related research.
Fall and Spring.

HWM 715. Persuasion Skills for Wellness Managers. 3 Credits.
In this course, students will develop communication and persuasion skills, which are essential for wellness managers. Utilizing a variety of media and techniques, students will hone their communication skills. Students will apply key marketing concepts to mount effective marketing campaigns for their organization.
Fall and Spring.

HWM 720. Exercise and Nutrition in Health and Disease. 3 Credits.
This course introduces students to the roles that physical activity and nutritional practices play in the prevention, management, and treatment of chronic diseases and conditions such as obesity, cardiovascular disease, cancer, diabetes, COPD, arthritis, depression and anxiety.
Fall and Spring.

HWM 730. Biopsychosocial Aspects of Health. 3 Credits.
This course is a survey of biological, psychological and social-environmental aspects of wellness. Taking an applied focus, students will learn current theoretical and evidenced-based approaches in psychology, integrative medicine, and behavioral economics that impact wellness.
Fall and Spring.

HWM 740. Health Systems and Policy for Wellness Managers. 3 Credits.
This course provides information pertaining to the US Health Care System with special emphasis on health and wellness. It provides an overview of the major public and private stakeholders including public health, insurance, and health care providers. Participants will examine how health policy impacts the design and financing of wellness programs.
Fall and Spring.

HWM 750. Planning and Evaluation for Wellness Managers. 3 Credits.
The purpose of this course is to examine planning and evaluation as inter-related, cyclical activities. Students will examine major activities and processes involved in planning and evaluating wellness programs.
P: HWM 705, HWM 710
Fall and Spring.

HWM 760. Wellness Law. 3 Credits.
This course introduces students to the legal and ethical environment of wellness management. Topics include the Affordable Care Act, Americans with Disabilities Act and HIPAA. Students will learn effective negotiation skills that can be used when dealing with contracts and vendors.
Fall and Spring.

HWM 770. Behavior and Development in Organizations. 3 Credits.
In this course, students will study organizations, their members and why people and groups behave as they do. Processes and methods that improve behavior, effectiveness, and efficiency in organizational settings will be examined. The course will also cover various methods for assessing organizational behavior and change.
Fall and Spring.

HWM 780. Best Practices and Emerging Issues in Wellness. 3 Credits.
In this course, students will study emerging trends, innovations, and best practices in the health and wellness industry with emphasis on preventative health care. Students will investigate major health challenges, programs, and policies to determine the influence of social, economic, multicultural, and global pressures on successful wellness practices.
P: HWM 700, HWM 705, HWM 715, HWM 720, HWM 730, HWM 740
Fall and Spring.

HWM 790. Health and Wellness Management Capstone Course. 3 Credits.
This course provides a cohesive experience designed to synthesize and apply information from the MS HWM curricula. Students complete an individual capstone experience (internship/special project) that demonstrates thorough understanding of the knowledge, skills and disposition necessary to be a successful health and wellness manager.
P: HWM 780 and consent of instructor
Fall and Spring.

Human Biology (HUM BIOL)

Courses

HUM BIOL 602. Human Physiology. 3 Credits.
Physiological functions of major human organs other than central nervous system: cell physiology, enzymes, cell energetics; muscle function; autonomic nervous system; endocrine system; blood, oxygen and circulatory system; immune system; kidney, digestion; and the role of physiology in diseases and medicine.
P: gr st.
Fall and Spring.

Human Development (HUM DEV)

Courses

HUM DEV 544. Dying, Death, and Loss. 3 Credits.
Death, dying, and loss from a multidisciplinary diversity perspective; the development of death concepts across the life span, end of life issues, and cross-cultural death practices and their relation to the American death system.
P: gr st.
Spring.

Humanistic Studies (HUM STUD)

Courses

HUM STUD 518. Topics in Linguistics/TESL. 3 Credits.
Analysis and discussion of topics of central importance in applied linguistics and Teaching English as a Second Language (TESL). Possible topics include:Teaching Grammer to ELLs; Second Language Pragmatics; Second Language Writing; and others.
P: gr st.

HUM STUD 519. Second Language Acquisition. 3 Credits.
Overview of issues in second-language acquisition, including linguistic, cognitive, social, and affective factors. Students will examine and think about learner language, read research on learner language, and consider implications for second-language teaching.
P: gr st.
Spring.

HUM STUD 520. Second Language Assessment. 3 Credits.
An exploration of policies, procedures, and instruments in assessing English language proficiency. Focus will be on practical assessment strategies and their incorporation into instructional planning.
P: gr st.
Spring Odd.

HUM STUD 521. Language and Society. 3 Credits.
The study of language in relation to society, including social and regional dialects, bilingualism and language contact, speech communities, the ethnography of language, and applications such as language policy and planning.
P: gr st.
Fall Only.

Management (MANAGMNT)

Courses

MANAGMNT 715. Financial Information for Decision Making. 3 Credits.
This course explores the use of financial information in organizational decision-making. It builds on basic accounting knowledge to extend the students' understanding of the financial implications of decisions.
P: gr st, and, Acctg 300 or equivalent, or cons inst.

MANAGMNT 730. Leading the Self. 3 Credits.
This course provides a framework for lifelong leadership development based on two perspectives: values-based leadership and competency-based leadership.
P: gr st.
Spring.

MANAGMNT 735. Foundations of Strategic Information Management. 3 Credits.
Information Technology (IT) is an integral part of all organizations and plays a vital role in all functional areas such as marketing, accounting, finance, human resources, operations, and supply chain. It also serves in enabling key applications such as business intelligence, data analytics, security, internal controls, and new-product planning among others. Owing to the dynamic nature of IT, it is imperative that organizations continuously reevaluate their strategic alliance with IT. Thus a well-designed, and strategically managed IT has the potential to dramatically improve a business's competitive advantage. The course discusses the significant managerial aspects of IT’s increasing impact on today’s organizations, along with IT trends and their business implications, security, privacy and ethical issues.
P: graduate status
Spring.

MANAGMNT 736. Analysis & Design of Business Information Systems. 3 Credits.
The competence in business information systems analysis and design (SA&D) is critical to not only information technology professionals but also to business managers since the fit between information technology and organizational business needs is argued to be a key determinant of firm performance. Students will learn system analysis and design concepts and technologies required to develop business information systems. The emphasis is on system life cycle concepts ranging from a system’s planning to its discontinuance. The course will also attempt to evaluate the ethical issues involved as well as the business reasons why some IT projects succeed while others fail.
P: Graduate standing and MANAGMNT 735
Fall Only.

MANAGMNT 737. Strategic Application of E-Commerce. 3 Credits.
The course challenges the students to explore business, technological and social perspectives to understand the strategic applications of e-commerce. It covers a wide range of current issues and challenges associated with managerial aspects of e-commerce.
P: gr st.
Spring.

MANAGMNT 740. Management of Human Resources. 3 Credits.
Job analysis, recruitment, selection, development, compensation, retention, evaluation and promotion of personnel within an organization. Also deals with labor relations and laws related to EED and their implications for HRM.
P: gr st.

MANAGMNT 743. Financial Management. 3 Credits.
Financial Management examines the organization of advanced financial Management functions and principles for business; Management of fixed and working capital; short-term and long-term financial planning through investment and financing decision; domestic and international money and capital markets; ethical issues relating to business financial Management.
P: gr st, and, BUS ADM 343 or equivalent, or cons inst.

MANAGMNT 744. Marketing Planning and Strategy. 3 Credits.
This course examines the sources and uses of marketing information as it relates to the marketing planning process, culminating in the development and evaluation of marketing strategy and tactic for products, distribution, pricing, and marketing communication.
P: Gr st; Bus Adm 322 or consent of inst.

MANAGMNT 745. Business and Marketing Strategy. 3 Credits.
The characteristics and management of markets are described in topics that include the business and marketing environment, components of the strategic marketing mix, market segmentation, planning and responding to competitors' strategies.
P: gr st.
Spring.

MANAGMNT 746. Strategic Management. 3 Credits.
This course focuses on the formulation, selection and implementation of business strategies through assessment of organizational performance; competitive, market and industry analysis; development of strategic positions and identification of strategic opportunities. Students practice strategic thinking for a cross-section of business types from small, closely-held to corporate, publicly-held, multiple business enterprises. The concepts and ideas of the course are explored through the analysis of case studies. The course looks at strategic planning as an integrative process that links internal organizational performance to external, competitive factors and forces for change. The emphasis is to learn to think strategically.
P: gr st and Managmnt 743 and 753.

MANAGMNT 750. Team Leadership. 3 Credits.
Builds on a basic understanding of groups and focuses on team dynamics and team organization. Theories and concepts related to quantitative and qualitative decision-making and planning are integrated from an individual and team perspective.
P: gr st.

MANAGMNT 753. Organizational Theory and Behavior. 3 Credits.
The major theories and schools of thought dealing with administrative behavior, administrative process, and organizational behavior and theory. Attention is given to the similarities and differences between public, private and nonprofit administration.
P: gr st and Bus Adm 382 (dept will monitor).

MANAGMNT 757. Leadership and Innovation. 3 Credits.
Advanced concepts and methods of managing complex organizations and multi-organizational systems in the public, non-profit, and private sectors using a variety of creative learning methods.
P: gr st and Managmnt 746 and 753.

MANAGMNT 758. Innovation and Entrepreneurship. 3 Credits.
This course will expose students to the vocabulary and concepts that are essential to innovation and entrepreneurship in today's organization and show how these concepts can be applied to different organizational environments and situations.
P: gr st.
Spring.

MANAGMNT 759. Managing Knowledge for Sustainability. 3 Credits.
This course will focus on leading, building, maintaining and measuring the value of knowledge management systems for sustainability. As the new knowledge economy continues to evolve, knowledge is being recognized as a key business asset and a crucial component of business strategy.
P: gr st.
Fall Only.

MANAGMNT 761. International Management. 3 Credits.
International Management develops an awareness of the impact of international forces on business, studies management concepts of multi-national organizations, and discusses establishing and conducting transactions with firms in other countries. Political and economic risk are examined as they impact various methods of international investment.
P: gr st.

MANAGMNT 770. Organizational Change and Transformation. 3 Credits.
Assessment and diagnosis of organizations for the purpose of planned change and development. Students will learn assessment techniques and analytical methods, how to link assessment to development, types of development programs and program evaluation. Specific topics include systems theory, applied statistics, group dynamics, and research design.
P: Managmnt 753 & gr st.

MANAGMNT 775. New Management Paradigms. 3 Credits.
Theoretical and philosophical foundations of new management paradigms. The course develops practical skills for applying this knowledge.
P: Managmnt 753 and gr st.

MANAGMNT 796. Professional Project. 4 Credits.
Intense application experience in which students will learn the fundamentals of project management. At the end of the course students should be able to demonstrate knowledge of project management principles as well as develop and complete an applied project that will utilize material learned from project management and prior masters coursework.
P: Graduate Managmnt student.
Spring.

MANAGMNT 797. Internship. 1-6 Credits.
P: gr st.
Fall and Spring.

MANAGMNT 798. Independent Study. 1-3 Credits.
P: gr st.
Fall and Spring.

Mathematics (MATH)

Courses

MATH 529. Applied Regression Analysis. 4 Credits.
Techniques for fitting linear regression models are developed and applied to data. Topics include simple linear regression, multiple regression, curvilinear regression, and linearizable models.
P: Graduate status. REC: Introductory Statistics, Calculus I, and Linear Algebra. Knowledge of Excel and R.
Fall Only.

MATH 555. Applied Mathematical Optimization. 3 Credits.
Analytical and numerical optimization techniques; linear, nonlinear, integer, and dynamic programming. Techniques applied to problems of water, forest, air and solid-waste management.
P: gr st.
Fall Even.

MATH 630. Design of Experiments. 4 Credits.
Statistical theory and practice underlying the design of scientific experiments, and methods of analysis. Replication, randomization, error, linear models, least squares, crossed and nested models, blocking, factorial experiments, Latin squares, confounding, incomplete blocks, split-plots.
P: Graduate student status, Introductory Statistics course completion
Spring.

MATH 698. Independent Study. 1-3 Credits.
P: gr st.

Nursing (NURSING)

Courses

NURSING 699. Travel Course. 1-6 Credits.

NURSING 734. Evaluation and Evidence-Based Practice in Health Systems. 3 Credits.
This course will focus on skills needed for nurses to evaluate outcomes in health systems. Topics include using statistics and information systems in evaluation and research, continuous quality improvement, evidence-based practice, safety and quality indicators, performance improvement methods, and team-based problem solving.
P: Must be admitted to MSN program
Fall Odd.

NURSING 737. Leadership in Health Systems. 3 Credits.
This course will forcus on the development of leadership for nurses in complex organizations. Students will explore the cncepts of organizational culture in micro, meso and macro systems. Topics will include transformation of complex organizations, conflict, crisis management, leading innovation, creating a culture of safety, and serving as a mentor and coach.
P: Must be admitted to MSN program
Spring Even.

NURSING 741. Theories of Organizational Behavior and Leadership in Health Systems. 3 Credits.
This course will address concepts and theories important to nursing leadership and management in health systems. Organizational behavior, leadership theories, and complexity science will be emphasized.
P: Must be admitted to MSN program
Fall Odd.

NURSING 745. Economics and Policy in Health Systems. 3 Credits.
This course will explore the health care delivery system in the United States including economic, political, financial, ethical, and social factors affecting health policy. Emphasis will be given to the financing of health care. Statistics will be used to analyze resource management and utilization. Legislative and regulatory processes affecting nursing and healthcare will be addressed.
P: Must be admitted to MSN program
Spring Even.

NURSING 750. Human Resource Management in Health Systems. 3 Credits.
This course is designed to introduce students to the field of human resource management from the perspective of a nurse manager and address effective human resource management practices and policies designed to create and maintain a healthy professional work environment. Communication strategies and technologies, and collaboration on interprofessional healthcare teams and with diverse groups will be addressed. Staffing models, hiring, retention and supervision practices, performance enhancement planning, strategic scheduling, and labor relations/law will be covered.
P: Must be admitted to MSN program.

NURSING 755. Program Planning for Population Health. 2 Credits.
This course will focus on the role of the nurse leader in program planning for health promotion and disease prevention for populations. Topics will include determinants of health, epidemiology, biostatistics, and advancing equity in access, services, and outcomes for vulnerable populations.
P: Must be admitted to MSN program.

NURSING 760. Informatics in Health Systems. 3 Credits.
This course will enhance students' knowledge and skills related to nursing informatics in a variety of healthcare settings. Students will learn how to use project management principles and technologies to enhance patient-care delivery, management, and clinical decision support. Research from nursing and other disciplines regarding improving patient outcomes, cost effectiveness and patient safety will be emphasized.
P: Must be admitted to MSN program
Spring Odd.

NURSING 770. Practicum I: Leadership Practices - Quality and Safety in Health Systems. 2 Credits.
In this course, students will apply best practices related to evidence-based quality and safety decisions in their practicum site. Local and national drivers of safety and quality initiatives, along with oversight of these programs, will be explored. Benchmarking and statistical process control methods will be emphasized to ensure appropriate leadership decisions. Required MSN practicum hours will be satisfactorily completed.
P: Nursing 734, Nursing 737, Nursing 741, Nursing 745, Nursing 750, Nursing 755, pre- or co-requisite Nursing 780, and co-requisite Nursing 790
Fall Even.

NURSING 772. Practicum II: Leadership Practices - Change, Culture and Communication in Health Systems. 2 Credits.
This course will provide a structured experience for exploration of nursing leadership and management roles in health care systems. Emphasis will be placed on change management, the use of information systems, financial reimbursement models, exploration of organizational culture and development of professional communication skills. Required MSN practicum hours will be satisfactorily completed.
P: Nursing 770, Nursing 780, pre- or co-requisite Nursing 760, and co-requisite Nursing 790
Spring Odd.

NURSING 774. Practicum III: Transition to Leadership Role in Health Systems. 2 Credits.
This course will explore aspects of role transition to nursing leadership and management. Discussions and debate will be used to highlight transition and survival issues. Remaining required MSN practicum hours will be satisfactorily completed.
P: Nursing 760, Nursing 770, Nursing 772, pre- or co-requisite Nursing 785, and co-requisite Nursing 790.

NURSING 780. Financial Management in Health Systems. 3 Credits.
This course will develop knowledge and skills used by nurse leaders for effective financial management in health care systems. Topics will include reimbursement systems, coding and payment mechanisms, ethics and legalities of contracting, governmental regulations, budget development, marketing and inter-professional collaboration around budget and finance.
P: Must be admitted to MSN program
Fall Even.

NURSING 785. Environmental Sustainability in Health Systems. 2 Credits.
This course will explore sustainability in health systems with emphasis on the environmental impact of health system practices. Implications of United States and global environmental health policy will be analyzed. Economic sustainability including cost-benefit analysis will be addressed. Emphasis will be placed on decisions and strategies nurse leaders make that impact sustainability of health systems and the environment.
P: Must be admitted to MSN program.

NURSING 790. MSN Leadership Project. 1 Credit.
This course will provide students the opportunity to design, implement, evaluate and professionally disseminate an evidence-based leadership project within a health care system. Projects will create quality and safety in patient care through nursing leadership, conscious of fiscal and environmental responsibility and will demonstrate synthesis and application of MSN leadership and management curricular concepts. Requisite knowledge, skills and attitudes to become successful nursing leaders or managers in health systems will be exhibited in the project process. This course must be taken three times over three semesters in the final year, in conjunction with the three MSN practicum courses. Required MSN practicum hours related to the project (90 total: 30 hours in each of 3 subsequent semesters) will be satisfactorily completed.
P: concurrent enrollment or completion of Nursing 770, Nursing 772 or Nursing 774.

NURSING 798. Independent Study. 1-2 Credits.
Allows MSN student to master content absent in graduate courses transferred from other institutions.
P: Student must be accepted to the MSN program.

Physics (PHYSICS)

Courses

PHYSICS 615. Solar and Alternate Energy Systems. 3 Credits.
Study of alternate energy systems which may be the important energy sources in the future, such as solar, wind, biomass, fusion, ocean thermal, fuel cells and magneto hydrodynamics.
P: gr st.
Spring Even.

PHYSICS 617. Nuclear Physics and Radiochemistry. 3 Credits.
Properties and reactions of atomic nuclei; application of the properties of radioactive nuclei to the solution of chemical, physical, biological and environmental problems.
P: gr st.
Spring Even.

Political Science (POL SCI)

Courses

POL SCI 505. Urban Politics and Policy. 3 Credits.
Structures and operations of city governments and their responses to policy issues such as education, employment, social welfare, housing, transportation, migration, racial discrimination, urban sprawl and social inequality.
P: gr st.
Spring.

POL SCI 506. Regulatory Policy and Administration. 3 Credits.
The origins, purposes and operation of regulatory agencies and the programs in the U.S.: theories of regulation, issues and controversies in regulatory policy, and decision-making in such areas as economic regulation, public health, consumer protection workplace safety and environmental quality.
P: gr st.
Spring.

POL SCI 514. Administrative Law. 3 Credits.
Administrative law in the American federal (intergovernmental) system: connections between administrative law issues and issues of public policy; and legal dimensions of administrative problems.
P: gr st.
Fall Only.

POL SCI 516. Congress: Politics and Policy. 3 Credits.
Legislative institutions and policies, emphasizing the U.S. Congress. The role of legislature in American politics; elections, representation, formal and informal legislative institutions and practices, leadership, interest groups and lobbying, and the role of legislatures in policy innovation. P: gr st. (S)
P: gr st.
Spring.

POL SCI 608. Public Policy Analysis. 3 Credits.
An introduction to public policy analysis and to the policy-making process, primarily in American government. The course emphasizes the political aspects of policy analysis, models and methods for rational design of public policies, and applications of policy studies to particular public problems.
P: gr st.
Fall Only.

POL SCI 610. Intergovernmental Relations. 3 Credits.
The relations among the federal, state and local units of government; federalism, intergovernmental revenues and expenditures, intergovernmental policies and grants in-aid. P: gr st. (F)
P: gr st.
Fall Only.

Psychology (PSYCH)

Courses

PSYCH 615. Organizational and Personnel Psychology. 3 Credits.
Examines the human side of organizations from a scientific framework. Topics include job analysis, performance appraisal, employee selection, training, motivation, job satisfaction, work teams, leadership, and organization development.
P: gr st.
Fall Only.

PSYCH 620. Test and Measurements. 3 Credits.
An overview of the uses and underlying psychometric concepts of psychological tests. Examines selected tests in the areas of intelligence, personality, achievement, and interest assessment. Discusses controversial social, legal, ethical, and cultural issues related to testing.
P: gr st.
Fall and Spring.

PSYCH 629. Theories of Personality. 3 Credits.
P: gr st.

Public & Environmental Affairs (PU EN AF)

Courses

PU EN AF 506. Regulatory Policy and Administration. 3 Credits.
The origins, purposes and operation of regulatory agencies and the programs in the U.S.: theories of regulation, issues and controversies in regulatory policy, and decision-making in such areas as economic regulation, public health, consumer protection workplace safety and environmental quality.
P: gr st.
Spring.

PU EN AF 514. Administrative Law. 3 Credits.
Administrative law in the American federal (intergovernmental) system: connections between administrative law issues and issues of public policy; and legal dimensions of administrative problems.
P: gr st.
Fall Only.

PU EN AF 522. Environmental Planning. 3 Credits.
History, processes, and impacts of environmental planning in the United States. Action forcing legislation and its effect on environmental issues and processes. Emphasizes environmental planning and implementation at the national, state, and local levels.
P: gr st.
Fall and Spring.

PU EN AF 535. Principles and Practices of Emergency Management. 3 Credits.
The philosophy of comprehensive Emergency Management will be discussed with the four attendent steps, which include mitigation, preparedness, response and recover. In addition, legal issues involving state and Federal law effecting emergency operations will be studied.
REC: Pu En Af 315.

PU EN AF 536. Strategic Emergency Preparedness, Planning and Implementation. 3 Credits.
Strategic planning and budgeting is a very important component in emergency planning and mitigation. Learn how to acquire and allocate resources, plan for crises with or without warning, and implement preparedness programs.

PU EN AF 537. Disaster Response Operations and Management. 3 Credits.
Examine the roles and responsibilities of the players in a crisis event. Explore the various problems associated with response operations such as: inadequate preparedness measurers, safety and site security, politics, and record keeping.

PU EN AF 538. Disaster Recovery. 3 Credits.
Examine disaster recovery in isolation. Explore the short and long term effects of disasters, as well as, the process of putting families, businesses and communities back together. You will learn the importance of reconstruction and relocation.

PU EN AF 551. Water Resources Policy and Management. 3 Credits.
This course will cover the basics of water management and planning, covering local to global examples of such things as surface water pollution, mining of fossil aquifers, water wars at regional, interstate, and international levels.
P: gr st.

PU EN AF 559. Political and Policy Dimensions of Emergency Management. 3 Credits.
This course considers the political and policy environment in which emergency management is practiced. It focuses on political processes and phenomena associated with mitigating the likely effects of extreme events, responding to them, and recovering from them. The course is intended to help emergency managers develop an understanding of local, state, federal, and intergovernmental politics affecting and affected by extreme events.

PU EN AF 578. Environmental Law. 3 Credits.
An overview of major environmental laws such as the Clean Air and Clean Water Acts, with emphasis on how these laws are implemented by the federal and state governments.
P: gr st.
Fall Only.

PU EN AF 579. Natural Resource Policy, Law, and Administration. 3 Credits.
This course examines public land and resources policy, law and administration from multiple perspectives. It covers environmental and administrative decision making and various contemporary resource management problems and conflicts. A number of substantive policy areas are examined including national forests, public rangelands, wildlife and biodiversity, and protected areas, among others. These substantive areas are approached and analyzed in a number of different ways.
P: gr st.

PU EN AF 580. Global Environmental Politics and Policy. 3 Credits.
This course explores the transnational and international context of environmental politics and policy. Particular focus areas include the causes of environmental harm, the meaning of sustainability, and the relevance of new environmental actors on the global stage.
P: gr st.
Spring.

PU EN AF 602. Environmental and Resource Economics. 3 Credits.
Applications of tools such as cost-benefit analysis and other economic concepts in current public decision making, with special emphasis upon common property resources management.
P: gr st.
Fall and Spring.

PU EN AF 608. Public Policy Analysis. 3 Credits.
An introduction to public policy analysis and to the policy-making process, primarily in American government. The course emphasizes the political aspects of policy analysis, models and methods for rational design of public policies, and applications of policy studies to particular public problems.
P: gr st.
Fall Only.

PU EN AF 615. Public and Nonprofit Budgeting. 3 Credits.
The purposes and attributes of major public budgetary systems: principles and methods in designing and managing relationships among program planning, policy planning and budgetary operation; applications of analytical and decision-assisting tools in public budgetary operations.
P: gr st.
Spring.

PU EN AF 628. Public and Nonprofit Program Evaluation. 3 Credits.
Develops a working understanding and selected skills relating to the conduct of program evaluations. Evaluation design, data collection, data analysis, and utilization of findings are discussed using the political and social context of "real" organizations.
P: graduate status
Spring.

PU EN AF 650. Advanced Geographic Information Systems. 3 Credits.
Project-based course using ARC/INFO software. Students adopt a study area, develop data layers, analyze these data and develop GIS maps showing results of the analysis.
P: gr st.
Spring.

PU EN AF 652. Planning Theory and Methods. 3 Credits.
Planning for public and not-for-profit agencies: theory and practical significance of planning; the political and administrative setting of planning operations; and methods of planning analysis such as strategic planning.
P: gr st.
Spring.

PU EN AF 653. Cost Benefit Analysis. 3 Credits.

Social Work (SOC WORK)

Courses

SOC WORK 699. Travel Course. 1-6 Credits.
Travel courses are conducted to various parts of the world and are led by one or more faculty members. May be repeated to different locations.
P: cons of instr & prior trip arr & financial deposit.

SOC WORK 700. Gateway to the Profession of Social Work. 2 Credits.
This course introduces students to the multi-level facets of the social work profession with a focus on teamwork and collaboration. This course is taken in the first semester of the generalist curriculum and sets the framework upon which subsequent MSW course and learning experiences are built.
P: Admission to the MSW Program.
Fall Only.

SOC WORK 701. Contemporary Social Work Ethics. 3 Credits.
This generalist course is designed to introduce MSW students to a wide range of ethical issues that impact practitioners in various settings.
P: Admission to the MSW Program
Spring.

SOC WORK 702. Generalist Practice I. 3 Credits.
This course promotes MSW level development of skills necessary to practice social work with diverse client populations.
P: Admission to MSW Program
Fall Only.

SOC WORK 703. Direct Practice Skills. 1 Credit.
This generalist course is designed to introduce MSW students to a range of skills required for effective practice with individuals, families, and small groups.
P: Admission to the MSW Program
Fall Only.

SOC WORK 704. Generalist Practice II. 3 Credits.
This course promotes masters' level development of skills necessary to practice social work with diverse groups within organizations and communities.
P: Admission to the MSW Program
Spring.

SOC WORK 705. Macro Practice Skills. 1 Credit.
This skills lab focuses on social work practice in small groups with an emphasis on communication, advocacy, ethics, and issues of diversity as they affect group work.
P: Admission to the MSW Program
Spring.

SOC WORK 707. Human Behavior and the Social Environment. 3 Credits.
Integration of theories and models examining the complexity of person/environment functioning with respect to individuals, families, small groups, organizations, and communities.
P: Admission to the MSW Program
Spring.

SOC WORK 711. Foundations of Social Welfare. 3 Credits.
This course examines the origin and change of social welfare arrangements in the U.S. to meet human needs. It traces the evolution of the social work profession and social welfare efforts in relation to major economic, social, and political forces over time. Students are introduced to the processes of policy development and policy change and evaluate contemporary social policies affecting poor and disenfranchised groups in the U.S.
P: Admission to MSW Program
Fall Only.

SOC WORK 712. Field I. 4 Credits.
Supervised social work practicum experience in a human service agency setting.
P: Admission to MSW Program
Fall Only.

SOC WORK 713. Seminar I. 1 Credit.
This generalist seminar course focuses on the application and integration of social work knowledge, values and skills to supervised social work practice in human service settings. The course provides opportunities for immersion in professional social work practice issues and dialogue within a classroom seminar format. The field internship is completed concurrently with the course.
P: Admission to the MSW Program.
Fall Only.

SOC WORK 714. Field II. 4 Credits.
Supervised social work practicum experience in a human service agency setting.
P: Admission to MSW Program; SOC WORK 712
Spring.

SOC WORK 715. Seminar II. 1 Credit.
This generalist seminar course focuses on the application and integration of social work knowledge, values and skills to supervised social work practice in human service settings. The course provides opportunities for immersion in professional social work practice issues and dialogue within a classroom seminar format. The field internship is completed concurrently with the course.
P: Admission to the MSW Program
Spring.

SOC WORK 716. Field III. 4 Credits.
Supervised social work practicum experience in a human service agency setting.
P: Admission to MSW Program
Fall Only.

SOC WORK 717. Seminar III. 1 Credit.
This specialized seminar course focuses on the application and integration of advanced social work knowledge, values and skills to supervised social work practice in human service settings. This course provides opportunities for immersion in professional social work practice issues and dialogue within a classroom seminar format. The field internship is completed concurrently with the course.
P: Admission to MSW Program
Fall Only.

SOC WORK 718. Field IV. 4 Credits.
Supervised social work practicum experience in a human service agency setting.
P: SOC WORK 716
Spring.

SOC WORK 719. Capstone Seminar. 1 Credit.
This specialized seminar course focuses on the application and integration of advanced social work knowledge, values and skills to supervised social work practice in human service settings. This course provides opportunities for immersion in professional social work practice issues and dialogue within a classroom seminar format. The field internship is completed concurrently with the course.
P: Admission to MSW Program
Spring.

SOC WORK 720. Diversity, Social Justice & Advocacy. 3 Credits.
Social work specialized practice course on working with diverse groups and communities.
P: Admission to MSW Program.

SOC WORK 721. Advanced Practice: Multi-Level Family Systems. 3 Credits.
Advanced social work theory and practice techniques for working with individuals and families.
P: Admission to MSW Program
Spring.

SOC WORK 722. Social Work Management & Supervision in the Social Services. 3 Credits.
Advanced social work practice of management and supervision methods for students working in management positions at any level in social service agencies.
P: Admission to the MSW Program or consent of instructor.

SOC WORK 727. Psychopathology for Clinical Social Work. 3 Credits.
This course examines mental health and mental illness from a strengths-based social work perspective. Cultural and community factors in defining these issues are addressed.
P: Admission to MSW Program or consent of instructor.

SOC WORK 728. Advanced Policy: Leadership, Advocacy and Practice. 3 Credits.
This course examines the role of social workers as leaders in advocacy efforts in policy practice and social institutions to address the needs of vulnerable and oppressed populations. Students apply an analytical framework from a social justice perspective when analyzing social welfare policy to examine particular practice concerns.
P: Admission to MSW Program.

SOC WORK 731. Research for MSW Practice. 3 Credits.
Advanced research course that prepares students to evaluate their own practice and to carry out independent research projects.
P: Admission to MSW Program
Fall Only.

SOC WORK 735. Emerging Issues in Child Welfare. 3 Credits.
Elective course examining contemporary child welfare policies and practices with emphasis upon child safety, permanency and well-being.
P: Admission to MSW Program or consent of instructor.

SOC WORK 736. Advanced Program Evaluation. 3 Credits.
This course focuses on evaluating social service delivery systems through the logic model and utilization-focused evaluation methods.
P: Admission to MSW Program
Spring.

SOC WORK 737. Crisis Intervention. 3 Credits.
This course contributes to development of practice competency with vulnerable and oppressed groups. The course teaches crisis intervention and emergency treatment approaches and then applies them to vulnerable populations of males and females in the United States.
P: Admission to MSW Program or consent of instructor.

SOC WORK 738. Advanced Practice: Community Empowerment. 3 Credits.
This course aims to prepare students for participation in the change process at the systems-level by building knowledge and skills in community organizing, program development, and fundraising.
P: Admission to MSW Program
Fall Only.

SOC WORK 747. Clinical Theories for Mental Health Practice. 3 Credits.
This course examines the current mental health theories influencing social work direct practice.
P: Admission to MSW Program or consent of instructor.

SOC WORK 749. Contemporary Interventions in Social Work Practice. 3 Credits.
This direct practice course provides an understanding and application of current and relevant intervention models used by social workers across a spectrum of client populations and focal issues
P: Admission to MSW Program or consent of instructor.

SOC WORK 751. Social Work Practice in Schools. 3 Credits.
This course provides students with the conceptual and practical foundation for practicing social work in a school setting.
P: Admission to MSW Program or consent of instructor.

SOC WORK 753. Strengths-Based Leadership and Supervision. 3 Credits.
This course contributes to the development of leadership skills for MSW students by focusing on a strengths-based approach to leadership and supervision.
P: Admission to MSW Program or consent of instructor.

SOC WORK 757. Social Work Practice in the Criminal Justice System. 3 Credits.
Prepares social workers for an understanding of correctional models and their inherent values, bio-psycho-social theories of crime causation, and assessment and intervention skills within a generalist framework.
P: Admission to MSW Program or consent of instructor.

SOC WORK 761. Overview of Wisconsin DPI School Social Work Standards. 3 Credits.
This on-line course introduces students to internal and external systems that impact K-12 education and educational settings. The following topics and Wisconsin Department of Public Instruction school social work standards will be covered in this course: educational policy, social and economic justice, at-risk populations, and diversity. This course is taken prior to SOC WORK 751 and 762.

SOC WORK 762. Wisconsin DPI School Social Work Standards Practicum. 3 Credits.
In this course, students will complete a practicum, consisting of a minimum of two days per week in a K-12 school, supervised by a certified school social worker. As part of this course, students will complete a Portfolio demonstrating mastery of the Department of Public Instruction (DPI) school social work standards. This course is taken in conjunction with SOC WORK 751.
Spring.

SOC WORK 767. Assessing Mental Health and Substance Use in Practice. 3 Credits.
The course will assist students to relate generalist practice social work theories to individuals with mental health and substance abuse challenges. The course will examine DSM-5 diagnosis, theoretical models and the implications of each approach relative to assessment and generalist practice settings. In addition, the course will integrate social justice and ethical frameworks in the assessment of mental health and substance abuse within generalist settings.
P: Admission to MSW Program or consent of instructor.

SOC WORK 777. Forensic Social Work: Policy and Practice. 3 Credits.
This course provides students with the understanding of the field of forensic social work practice which includes both criminal and civil issues. Students will learn to conduct forensic assessments, write court reports, act as expert and fact witnesses and facilitate guardianships. The course covers practice knowledge and skills in a variety of contexts including child welfare, juvenile justice, adult corrections, victim/witness services, health/long-term care, mental health, domestic abuse and disability services. Students apply knowledge to ethical dilemmas encountered in the legal system and learn to advocate on behalf of clients.
P: Admission to MSW Program or consent of instructor.

SOC WORK 795. Special Topics. 3 Credits.
This course provides students an opportunity to strengthen social work practice in work with clients and/or social service agencies on topics such as mental health, addictions, violence or other areas of concern in social work practice.
P: Admission to MSW Program or consent of instructor.

SOC WORK 798. Independent Study. 1-3 Credits.
P: graduate status
Fall and Spring.

Spanish (SPANISH)

Courses

SPANISH 555. Spanish and Latin American Cinema. 3 Credits.
Historical and critical introduction to the work of prominent Spanish and Latin American filmmakers and to thematic representations of Spanish and Latin American Cultures.
P: gr st.
Spring Even.

SPANISH 638. Major Spanish and Latin American Writer(s). 3 Credits.
Study of an outstanding figure in Spanish and Latin American literatures.
P: gr st.
Spring Odd.

Sustainable Management (SMGT)

Courses

SMGT 699. Travel Course. 1-6 Credits.
Travel courses are conducted to various parts of the world and are led by one or more faculty members. May be repeated to different locations.
P: gr st.

SMGT 700. Cultural and Historical Foundations of Sustainability. 3 Credits.
The changing relationships of humans to the natural environment; changes in dominant scientific perspectives and the process of scientific debate. The quest for understanding, manipulating, and dominating the natural world. Cultural and organizational structures; the role and impact of technology; the systems approach to problem solving and its implications for the future.

SMGT 710. The Natural Environment. 3 Credits.
Natural cycles, climate, water, energy, biosystems, ecosystems, the role of humans in the biosphere; human impacts on natural systems. Use of case studies; some pre-reading, carbon cycle as a unifying theme. Disturbance pollution and toxicity; carrying capacity; natural capital.

SMGT 720. Applied Research and the Triple Bottom Line. 3 Credits.
Document and project internal and external costs resulting from the inseparability of the natural, social, and economic environments. Assess sustainability issues using basic modeling techniques; cause and effect, root cause analysis, regression analysis, and business scenario-based cases.

SMGT 730. Policy, Law and the Ethics of Sustainability. 3 Credits.
The Law and Ethics regarding sustainability of Economic development and emerging environmental challenges at national and international levels; Including NationalEnvironmental Policy Act (NEPA), United Nations Environmental Program (UNEP) Carbon Footprints, Kyoto protocol, and Brundtland Commission. The policy and role of government and its agencies such as Army Corps of Engineers; Department of Interior, etc., in building a more just, prosperous, and secure environmental common future.

SMGT 740. Economics of Sustainability. 3 Credits.
Understand the economy as a component of the ecosystem within which it resides, with natural capital added to the typical analysis of human, social, built, and financial capital. Explore traditional micro, macro, and international trade theory and policy and the implications of sustainability. Topics include: history of economic systems and thought; globalization and localization; distinguishing between growth and development; the nature and causes of market failure; consumption, consumerism, and human well-being; emerging markets; technological change; business organization and financial market alternatives; demographic change; and the global food economy.

SMGT 750. The Built Environment. 3 Credits.
The assessment of the intersection of the built environment and human needs: water, air, food, waste, transportation, healthcare and education. Focus on evaluation and analysis of energy technology systems and building efficiency in the context of facilities management.

SMGT 760. Geopolitical Systems: Decision Making for Sustainability on the Local, State and National Level. 3 Credits.
An examination of decision making and public policy for sustainability at the national, state, and local level, with emphasis on the social, economic, and political factors affecting decisions within the public, nonprofit, and private sectors.

SMGT 770. Leading Sustainable Organizations. 3 Credits.
A macro-level perspective on leading sustainable organizations. Topics addressed include organizational change and transformation processes, strategic and creative thinking, organizational structures and their impacts, conflict management and negotiation, stakeholder management, and situational leadership styles and behaviors. Focuses on how organizational leaders develop and enable sustainable organizations, especially in times of environmental change.

SMGT 780. Corporate Social Responsibility. 3 Credits.
Corporate social responsibility and an organization. Evaluation of risks and potential impacts in decision making recognizing the links between the success of an organization and the well-being of a community. Integrating corporate social responsibility throughout an organization, creating metrics and communicating CSR policies internally and externally. Development of best practices in an organization pertaining to corporate social responsibility.

SMGT 782. Supply Chain Management. 3 Credits.
Planning, organizing, and controlling the organization's supply chain are examined in context of the triple bottom line. Total cost analyses or product and process life cycles are considered in the context of strategy and operations. Topics include sourcing, operations, distribution, reverse logistics and service supply chains. Process measurements and the impact on organizational performance in the context of footprints (e.g., carbon, water, pollution). Discussion of existing and potential software systems.

SMGT 784. Sustainable Water Management. 3 Credits.
This course addresses practical applications of sustainability in aquatic environments. Topics covered include water and health, water quality and quantity, governance, assessing the aquatic environment, water treatment technologies, environmental mitigation, and impacts of climate change. Emphasis will be on selected areas of interest from the perspective of public health, engineering, and municipal conservation management.

SMGT 785. Waste Management and Resource Recovery. 3 Credits.
Students will develop an understanding of the generation, treatment, and disposal of municipal, industrial, and agricultural wastes. Students will critically evaluate waste management and resource recovery processes and policies in the United States and compare them with practices used in other countries. Students will develop written and oral presentation skills necessary to effectively convey technical, economic, and social information related to waste management.

SMGT 790. Capstone Preparation Course. 1 Credit.
This one-credit course orientation course is designed to prepare students for the capstone project. Students will conduct research and literature reviews resulting in a capstone project proposal. Project proposal must receive approval before commencement of SMGT 792.
P: gr st.

SMGT 792. Capstone Project. 3 Credits.
Completion of the approved capstone project assisting students' synthesis of their learning throughout the program. This project will result in research papers, multimedia presentations, actual field settings, or other projects that demonstrate each student's ability to understand how to apply what he or she has learned in the program.

SMGT 795. Special Topics in Sustainable Management. 3 Credits.
Various specialized areas of sustainable management will be examined. This course may be repeated for credit with a different topic.
P: gr st.

Urban and Regional Studies (UR RE ST)

Courses

UR RE ST 699. Travel Course. 1-6 Credits.
Travel courses are conducted to various parts of the world and are led by one or more faculty members. May be repeated to different locations.
P: cons of instr & prior trip arr & financial deposit.

Faculty Members

A

Rebecca Abler; Professor; Ph.D., Virginia Polytechnic Institute and State University

Theresa E Adsit; Senior Lecturer; M.S., University of Wisconsin - Milwaukee

Riaz Ahmed; Assistant Professor; Ph.D., University of South Carolina

Tohoro F Akakpo; Associate Professor; Ph.D., Michigan State University*

Patricia A Albers; Senior Lecturer; M.B.A., University of Wisconsin - Oshkosh

Gregory S Aldrete; Professor; Ph.D., University of Michigan

Iftekhar Anam; Assistant Professor; Ph.D., University of Memphis

Scott A Ashmann; Associate Professor; Ph.D., Michigan State University*

Dana Atwood; Associate Professor; Ph.D., Western Michigan University

Andrew W Austin; Associate Professor; Ph.D., University of Tennessee

B

Mandeep Bakshi; Assistant Professor; Ph.D., Punjabi University (India)

Gaurav Bansal; Associate Professor; Ph.D., University of Wisconsin - Milwaukee*

Carl A Battaglia; Senior Lecturer; Ph.D., University of Wisconsin - Madison

Jeffrey A Benzow; Associate Professor; M.F.A., University of Wisconsin - Milwaukee

Devin Bickner; Associate Professor; Ph.D., Iowa State University

Mary D Bina; Senior Lecturer; B.F.A., University of Wisconsin - Milwaukee

Caroline S Boswell; Associate Professor; Ph.D., Brown University

Forrest W Brooks; Lecturer; M.S., University of Wisconsin - Milwaukee

Douglas Brusich; Assistant Professor; Ph.D., University of Iowa

Albert Bugaj; Professor; Ph.D., Purdue University

Deborah A Burden; Senior Lecturer; M.S., University of Wisconsin - Stevens Point

Kathleen C Burns; Associate Professor; Ph.D., University of Massachusetts

C

Thomas Campbell; Assistant Professor; Ph.D., Southern Illinois University

Denise A Carlson-Gardner; Lecturer; B.F.A., University of Wisconsin - Stevens Point

Bryan James Carr; Associate Professor; Ph.D., University of Oklahoma

Vallari Chandna; Assistant Professor; Ph.D., University of North Texas

Laxmi Chataut; Assistant Professor; Ph.D., University of Alabama

Ankur Chattopadyay; Assistant Professor; Ph.D., University of Colorado at Colorado Springs

Franklin M Chen; Associate Professor; Ph.D., Princeton University*

Stacie Christian; Associate Lecturer; M.S., University of Wisconsin - Green Bay

Phillip G Clampitt; Professor; Ph.D., University of Kansas

Heather Clark; Assistant Professor; Ph.D., Memorial University

Alise Coen; Assistant Professor; Ph.D., University of Delaware

Kevin J Collins; Associate Professor; M.M., University of Texas - Austin

De Fulton Cortes; Assistant Professor; Doctorate, Centro de Investigación y Docencia en Humanidades del Estado de Morelos (CIDHEM)

David N Coury; Professor; Ph.D., University of Cincinnati

Jason Cowell; Assistant Professor; Ph.D., University of Minnesota

Marcelo P Cruz; Associate Professor; Ph.D., University of California - Los Angeles

Illene N Cupit; Professor; Ph.D., Temple University

Ryan M Currier; Associate Professor; Ph.D., Johns Hopkins University*

D

Jared Dalberg; Associate Professor; M.E., Augusta State University

Toni L Damkoehler; Professor; M.F.A., University of Wisconsin - Madison

Gregory J Davis; Professor; Ph.D., Northwestern University*

Kristy J Deetz; Professor; M.F.A., The Ohio State University

Christin A DePouw; Associate Professor; Ph.D., University of Illinois at Urbana-Champaign

Sarah A Detweiler; Associate Professor; M.F.A., University of Florida

William Dirienzo; Assistant Professor; Ph.D., University of Virginia

Mathew E Dornbush; Professor; Ph.D., Iowa State University*

Michael L Draney; Professor; Ph.D., University of Georgia*

E

Karen Eckhardt; Lecturer; Master of Education, Cardinal Stritch University

Paul Emmett; Professor; Ph.D., University of Chicago

Jeffrey P Entwistle; Professor; M.F.A., Michigan State University

Paul Erdman; Associate Professor; Ph.D., University of Iowa

F

Heidi S Fencl; Professor; Ph.D., The Ohio State University*

Kevin J Fermanich; Professor; Ph.D., University of Wisconsin - Madison*

Hernan Fernandez-Meardi; Associate Professor; Ph.D., Universite de Montreal (Canada)

Jennifer Flatt; Professor; Ph.D., Loyola University

Jana Fogaca; Assistant Professor; Ph.D., West Virginia University

Patrick S Forsythe; Associate Professor; Ph.D., Michigan State University*

Shauna M Froelich; Lecturer; JD, Marquette University

G

Adam W Gaines; Associate Professor; D.A., Ball State University

Susan M Gallagher-Lepak; Professor; Ph.D., University of Wisconsin - Madison*

Clifton G Ganyard; Associate Professor; Ph.D., State University of New York at Buffalo

Alison A Gates; Professor; M.F.A., University of Washington

Matthew Geimer; Lecturer

Benajamin Jay Geisler; Lecturer; M.S., University of Wisconsin-Madison

Mary Gichobi; Assistant Professor; Ph.D., Iowa State University

Joan M Groessl; Assistant Professor; Ph.D., Marian University*

Lisa Grubisha; Assistant Professor; Ph.D., University of California - Berkeley

Amulya Gurtu; Assistant Professor; Ph.D., Ryerson University

Regan Gurung; Professor; Ph.D., University of Washington - Seattle

Mary E Guy; Senior Lecturer; M.S., University of Wisconsin - Oshkosh

H

Stefan T Hall; Associate Professor; Ph.D., Saint Louis University

Jennifer Ham; Professor; Ph.D., Rutgers University

Eric C Hansen; Associate Professor; M.M., University of Kentucky

Richard Hein; Professor; Ph.D., University of Rhode Island

David J Helpap; Associate Professor; Ph.D., University of Wisconsin - Milwaukee*

Michael Hencheck; Associate Professor; Ph.D., The Ohio State University

Georgette Heyrman; Assistant Professor; Ph.D., Northwestern University

Doreen K Higgins; Associate Professor; Ph.D., University of Kansas*

Jenell L Holstead; Associate Professor; Ph.D., University of Indiana

Maruf Hossain; Assistant Professor; Ph.D., University of Memphis

Chris Houghton; Post-Doctoral Associate

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+ Denotes Emeriti
* Denotes Graduate Faculty

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