Curriculum Proposal

**CSS 19-20 #5**

<table>
<thead>
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<th>Packet Contents</th>
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<tbody>
<tr>
<td>1.1 Summary</td>
</tr>
</tbody>
</table>

**Course modifications**

1.3 ENVR 6250 Advanced Environmental Science (3 credits) to Advanced Environmental Studies (3 credits)

Note: This course was previously end dated in curriculum this proposal is to reactivate existing course and change the title. Other information will remain the same.

1.6 ENVR 6400 Advanced Project in Methodology (2 credits) to Research and Project Design (3 credits); description change

1.9 ENVR 6600 Advanced Graduate Project II (2 credits) to ENVR 6600 Capstone Report (2 credits); description change

1.12 ENVR 6700 Graduate Environmental Seminar (1 credits) to Graduate Sustainability Seminar (1-3 credits); description change

**New Courses**

1.15 ENVR 3800/5800 Environmental Data Analysis (3 credits)
(Note: ENVR 3800 exists in curriculum; this modification adds the graduate number ENVR 5800 to curriculum.)

1.23 ENVR 6790 Environmental Project Management (3 credits)

**Course Drops**

1.30 ENVR 6300 Advanced Project in Literature Review (2 credits)

1.31 ENVR 6350 Computer Applications in Statistics (3 credits)

(Note: This course was crosslisted with BIOL 6890 that course will remain in curriculum unchanged.)

1.32 ENVR 6890 Grants and Contracts (2 credits)
(Note: This course was crosslisted with BIOL 6890 that course will remain in curriculum unchanged.)

**Program modification**

1.33 Environmental Studies, M.S.

1.45 Signatures
BSU Curriculum Forms

Form 1

Curriculum Modification Summary

College: Individual and Community Health
Department: Center for Sustainability Studies
Proposer: William Sea
Proposer’s position: Assistant Professor of Environmental Studies
Describe the modification(s) you propose, and how it (they) will work to students' advantage. (This description and explanation will be included in Curriculum Report packets forwarded to the Faculty Senate.):

• *Drop BIOL 6300 Advanced Project in Literature Review
• *Drop ENVR 6350 Computer Applications in Statistics
• *Drop ENVR 6890 Grants and Contracts
• *ENVR 6250 | Modify course title as well as update MCA’s and SLO’s
• *ENVR 6400 | Modify course title, description, and credit numbers as well as update MCA’s and SLO’s
• *ENVR 6600 | Modify course title, description, credit number as well as update MCA’s and SLO’s
• *ENVR 6700 | Modify course title, description, and credit number as well as update MCA’s and SLO’s
• *Add ENVR 5800 Environmental Data Analysis
• *Add ENVR 6790 Environmental Project Management
• *Update the Environmental Studies master’s program to promote growth

Modifications proposed (specify number of each):

__4__Course Modification(s) (form 2)
__2__New Course(s) (form 3)
__3__Course Drop(s) (form 4)
__1__Program Modification(s) (form 5)
____New Program(s) (form 6)
____Program Drop(s) (form 7)

The modifications affect (check):
____Liberal Education
____Undergraduate Curriculum
__X__Graduate Curriculum
____Teacher Licensure Program(s)
BSU Curriculum Forms

Form 2
Updated 9.19.15

Course Modification Form

Note: This course was previously end dated in curriculum this proposal is to reactivate existing course and change the title. Other information will remain the same.

Current Course Number(s):
  Undergraduate:
  Graduate: ENVR 6250
Proposed Course Number(s), if different:
  Undergraduate:
  Graduate:

Current Course Title: Advanced Environmental Science
Proposed Course Title, if different: Advanced Environmental Studies

Current Course Description: The social causes, ecological impacts, and human health effects of environmental degradation. Students provide in-depth analyses of environmental problems through laboratory research and field studies, library research, oral presentation, and written communication.

Proposed Course Description, if different:

Current Credits: 3 credits
Proposed Credits, if different:

Current Prerequisite(s):
  Undergraduate:
  Graduate:
Proposed Prerequisite(s), if different:
  Undergraduate:
  Graduate:

1) Reason(s) for change(s): The proposed title more accurately reflects the course content.

2) May this modified course replace the current course for students remaining in the old curriculum? Yes ___X___ No _____ If not, please drop the current course and submit a new course form for the modification.
3) Do these modifications change any of the following? **For all Yes answers, please provide updated information on the next page.**

- Student Learning Outcomes: Yes _X____ No _____
- Major Content Areas: Yes _X____ No _____
- Projected Maximum Class Size (Cap): Yes ____ No __X____

**Current Student Learning Outcomes:**
None listed in curriculum

**Proposed Student Learning Outcomes:**
- Students will develop an understanding of the complex interrelationship between social, economic, and environmental problems in the 21st Century.
- Students will investigate and be able to assess solutions to environmental problems, considering historical perspective and social and economic constraints.
- Students will conduct a comprehensive literature review to gain further insight into the development of the environmental field and its contemporary trends.

**Current Major Content Areas:**
None listed in curriculum

**Proposed Major Content Areas:**
The major content of this class is the interdisciplinary critical examination of the root causes of environmental problems and an assessment of historical and contemporary approaches to solving a range of environmental problems, increasingly through sustainability-based perspectives.

Course will now be offered annually Fall term

4) **Current Course fee(s) per student:**
Proposed Course fee(s) per student, if different: $ for:

5) **Service Areas:**
This course is a requirement or an elective in the programs/areas listed below. To locate where this course appears please search the online catalog, as follows:
   a) go to [http://www.bemidjistate.edu/academics/catalog/](http://www.bemidjistate.edu/academics/catalog/) and choose the most recent catalog(s),
   b) click on “Areas of Study, and Course Descriptions,”
   c) click on “PDF of Entire Catalog” in upper right,
   d) press Ctrl F, and enter the prefix and number of the course(s) from this form.

Non-licensure programs:
Environmental Studies, M.S. master
Teacher Licensure programs:

Liberal Education:

The above “service area” programs/departments were notified of this modification on _______ (date) by ________________ (mail, email, or phone).

Please check one of the items below:

_____ No comments were received from other programs or departments within one week of the notification.

_____ Comments were received within one week of the notification, and are attached.
Course Modification Form

Current Course Number(s):
  Undergraduate: 
  Graduate: ENVR 6400

Proposed Course Number(s), if different:
  Undergraduate: 
  Graduate: 

Current Course Title: Advanced Project in Methodology

Proposed Course Title, if different: Research and Project Design

Current Course Description: Advanced learning in research methodology as it applies to qualitative and quantitative research, sampling and data collection methods, experimental vs. non-experimental procedures, and various statistical methods for data analysis.

Proposed Course Description, if different: Advanced learning in research and project design as it applies to qualitative and quantitative research, sampling and data collection methods, experimental vs. non-experimental procedures, and various statistical methods for data analysis.

Current Credits: 2 credits

Proposed Credits, if different: 3 credits

Current Prerequisite(s):
  Undergraduate: 
  Graduate:

Proposed Prerequisite(s), if different:
  Undergraduate: 
  Graduate:

1) Reason(s) for change(s): The proposed course description and credit number more accurately reflect the course content.

2) May this modified course replace the current course for students remaining in the old curriculum? Yes __X__ No____ If not, please drop the current course and submit a new course form for the modification.
3) Do these modifications change any of the following? **For all Yes answers, please provide updated information on the next page.**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Learning Outcomes</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Major Content Areas</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Projected Maximum Class Size (Cap)</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**Current Student Learning Outcomes:**
None listed in curriculum

**Proposed Student Learning Outcomes:**
- Students will demonstrate knowledge and application of basic research methods
- Students will learn to apply basic fundamentals of project design and planning
- Students will design a draft proposal as deliverables being a major written assignment and a professional presentation
- Students will critique draft proposals of other students in class

**Current Major Content Areas:**
None listed in curriculum

**Proposed Major Content Areas:**
- Project planning
- Research design
- Project design
- Environmental problem solving
- Proposal writing

Course will now be offered annually Spring term

4) Current Course fee(s) per student:
Proposed Course fee(s) per student, if different: $ for:

5) Service Areas:
This course is a requirement or an elective in the programs/areas listed below. To locate where this course appears please search the online catalog, as follows:
- go to [http://www.bemidjistate.edu/academics/catalog/](http://www.bemidjistate.edu/academics/catalog/) and choose the most recent catalog(s),
- click on “Areas of Study, and Course Descriptions,”
- click on “PDF of Entire Catalog” in upper right,
- press Ctrl F, and enter the prefix and number of the course(s) from this form.

Non-licensure programs:
Environmental Studies, M.S. master
Teacher Licensure programs:

Liberal Education:

The above “service area” programs/departments were notified of this modification on _______ (date) by __________________ (mail, email, or phone).

Please check one of the items below:

______ No comments were received from other programs or departments within one week of the notification.

______ Comments were received within one week of the notification, and are attached.
BSU Curriculum Forms

Form 2
Updated 9.19.15

Course Modification Form

Current Course Number(s):
  Undergraduate:
  Graduate: ENVR 6600
Proposed Course Number(s), if different:
  Undergraduate:
  Graduate:

Current Course Title: Advanced Graduate Project II
Proposed Course Title, if different: Capstone Report

Current Course Description: Students work on further developing a research plan based on a combination of literature, laboratory, or field methods and carrying it out under supervision of a faculty advisor in preparation for completing their thesis. Students will work together to critique and improve course projects during the semester.

Proposed Course Description, if different: In this final course, students work closely with the professor of record and up to 2 additional professionals to design and implement a capstone project. Capstone projects involve scholarly and/or research-based pursuit of knowledge and content development. Though projects may vary based on individual interests, each will reflect a significant level of scholarship and creativity and build upon existing knowledge to create new learning experiences and an enhances level of expertise.

Current Credits: 2 credits
Proposed Credits, if different:

Current Prerequisite(s):
  Undergraduate:
  Graduate:
Proposed Prerequisite(s), if different:
  Undergraduate:
  Graduate:

  1) Reason(s) for change(s): The proposed course description, major content areas and student learning outcomes more accurately reflect the course content.
2) May this modified course replace the current course for students remaining in the old curriculum? Yes __X__ No _____ If not, please drop the current course and submit a new course form for the modification.

3) Do these modifications change any of the following? For all Yes answers, please provide updated information on the next page.
   Student Learning Outcomes Yes ___X___ No ____
   Major Content Areas Yes ___X___ No ____
   Projected Maximum Class Size (Cap) Yes _____ No __X__

Current Student Learning Outcomes:

D. LEARNING OUTCOMES (General)
   1. specifically explore published literature and other sources related to their research projects and their work proceeds during the course.
   2. further apply methods specific to their research projects. Students will write a short research paper summarizing their results, complete with discussion and conclusions.
   3. learn to work within a research team framework.

Proposed Student Learning Outcomes:
   • Students will design and complete individual and/or group project involving scholarly and research-based study.
   • Students will review and evaluate existing knowledge of selected topic(s).
   • Students will create a tangible product/deliverable which enhances or adds to existing content.
   • Students will give an oral public presentation and written report to discuss their role in designing, executing and reporting accomplishments of a completed environmental project.

Current Major Content Areas: Environmental Studies

Proposed Major Content Areas: Determined based on capstone project.

4) Current Course fee(s) per student:
   Proposed Course fee(s) per student, if different: $ for:

5) Service Areas:
   This course is a requirement or an elective in the programs/areas listed below. To locate where this course appears please search the online catalog, as follows:
   a. go to http://www.bemidjistate.edu/academics/catalog/ and choose the most recent catalog(s),
   b. click on “Areas of Study, and Course Descriptions,”
   c. click on “PDF of Entire Catalog” in upper right,
   d. press Ctrl F, and enter the prefix and number of the course(s) from this form.
Non-licensure programs:
Environmental Studies, M.S. master

Teacher Licensure programs:

Liberal Education:

The above “service area” programs/departments were notified of this modification on ________ (date) by __________________ (mail, email, or phone).

Please check one of the items below:

_____ No comments were received from other programs or departments within one week of the notification.

_____ Comments were received within one week of the notification, and are attached.
BSU Curriculum Forms

Form 2
Updated 9.19.15

Course Modification Form

Current Course Number(s):
  Undergraduate:
  Graduate: ENVR 6700
Proposed Course Number(s), if different:
  Undergraduate:
  Graduate:

Current Course Title: Graduate Environmental Seminar
Proposed Course Title, if different: Graduate Sustainability Seminar

Current Course Description: This course exposes graduate students to a range of topics within environmental science. In a seminar format, students will discuss environmental problems in a deeper context and present progress reports on their thesis research. Faculty and guests will make presentations for students to discuss. Students must enroll in ENVR 6700 a minimum of twice over two semesters. Students may enroll for credit up to 4 times.

Proposed Course Description, if different: This course exposes graduate students to a range of topics within environmental studies from a sustainability perspective. In a seminar format, students will discuss environmental problems in a deeper context and present progress reports on their thesis research and projects. Faculty and guests will make presentations for students to discuss. Students may enroll for up to 6 credits.

Current Credits: 1 credits
Proposed Credits, if different: 1-3 credits

Current Prerequisite(s):
  Undergraduate:
  Graduate:
Proposed Prerequisite(s), if different:
  Undergraduate:
  Graduate:

  1) Reason(s) for change(s): The proposed course description and credit number more accurately reflect the course content.
2) May this modified course replace the current course for students remaining in the old curriculum? Yes __X__ No _____ If not, please drop the current course and submit a new course form for the modification.

3) Do these modifications change any of the following? **For all Yes answers, please provide updated information on the next page.**
   - Student Learning Outcomes: Yes ___X___ No _____
   - Major Content Areas: Yes ___X___ No _____
   - Projected Maximum Class Size (Cap): Yes _____ No ___X___

Current SLO’s

**D. LEARNING OUTCOMES (General)**

1. develop a better understanding of environmental concepts related to and beyond those covered by their research.
2. write 2-5 summary short papers integrating concepts covered in the course. Students will critique papers and presentations made by other students in the course.
3. improve public speaking skills by making research presentations focused on current status of their research and related to concepts covered in the course.

Proposed SLO’s:

* (no change) develop a better understanding of environmental concepts related to and beyond those covered by their research and project work.
• make professional-level presentations focused on current status of their research and project work related to concepts covered in the course.
• write 2-5 summary short papers integrating concepts covered in the seminar course. Students will critique papers and presentations made by other students in the course.

Current MCA’s

• Environmental Studies
• Collaboration Techniques
• Effective scientific communication

Proposed MCA’s: Determined based on seminar topic.

4) Current Course fee(s) per student:
   Proposed Course fee(s) per student, if different: $ for:

5) Service Areas:
This course is a requirement or an elective in the programs/areas listed below. To locate where this course appears please search the online catalog, as follows:
   a. go to [http://www.bemidjistate.edu/academics/catalog/](http://www.bemidjistate.edu/academics/catalog/) and choose the most recent catalog(s),
   b. click on “Areas of Study, and Course Descriptions,”
   c. click on “PDF of Entire Catalog” in upper right,
d. press Ctrl F, and enter the prefix and number of the course(s) from this form.

Non-licensure programs:
Environmental Studies, M.S. master

Teacher Licensure programs:

Liberal Education:

The above “service area” programs/departments were notified of this modification on _______ (date) by __________________ (mail, email, or phone).

Please check one of the items below:

______ No comments were received from other programs or departments within one week of the notification.

______ Comments were received within one week of the notification, and are attached.
BSU Curriculum Forms

Form 3
Updated: 9.19.15

New Course Form

Course Number:
Undergraduate: ENVR 3800 (Note: Course already exists in curriculum; this modification adds the graduate number to curriculum.)
Graduate: ENVR 5800

Course Title: Environmental Data Analysis

Course Description:
The aim of this course is to expose students to analytical methods for environmental applications. The class will provide a primer on introductory inferential statistics (sampling, probability, central tendencies, spread, t-tests and ANOVA) and work towards more advanced analytical applications which are geared towards research questions in Environmental Studies, Geology, and Geography. These techniques include multiple regression, logistic regression, multi-dimensional scaling, regression trees, cluster analysis, survival analysis and basic time series analysis. This class will focus on learning both the theoretical background and application of these methods and discuss the ethical and contextual issues that surround the use of statistical analysis in environmental research.

Credits: 3

Prerequisite(s):
Undergraduate: None
Graduate: None

1. Reason(s) for creating this course: To give students a basic background in inferential statistics and in analytical methods that are specific to environmental analysis

2. How often will this course be offered?
One time per year in the fall.

3. What are the student learning outcomes for the course (please precede each outcome with "Students will...")?

- Students will develop a solid foundation in basic inferential statistics and sampling techniques
- Students will successfully design a research project and appropriately state research and null hypothesis statements.
- Students will develop the ability to identify the correct data and statistical test to utilize for any given study.
- Students will gain a basic proficiency in multiple statistical software including SPSS, Minitab and R.
Students will explain and apply advanced environmental analytical methods including multiple regression, logistic regression, multi-dimensional scaling, regression trees, cluster analysis, survival analysis and basic time series analysis.

- Students will design, carry out, and disseminate results from a study using an advanced environmental analytical method.

4. What are the major content areas for the course?
- Research design
- Foundational statistical methods
- Environmental Analysis

5. Is this course repeatable for credit, and if so, what is the maximum number of credits that can be earned? No

6. If this course is intended primarily for off-campus delivery (not offered on campus), what delivery mechanism will be used? N/A

7. What is the projected maximum class size (cap)?
30 students (needs to be taught in a computer lab so limited by the constraints of this learning environment).

8. What qualified faculty will be available to teach this course?
Dr. Jeff Ueland

NOTE WELL: Department and dean, in approving this proposal, attest both to the adequacy of the qualifications of faculty here named, and to their availability to teach the course at the frequency specified above, without excessive overload or disruption to other curriculum.

9. What additional library and other resources need or should be provided for this course, that are not already available?
None

10. What special personal property or service fee(s) would be charged to students taking this course? These charges would be for 1) items that are retained by the student and have an educational or personal value beyond the classroom, or 2) services that are on the student’s behalf (see MnSCU Board Policy 5.11).
   Amount per student: $
   For:

11. Attach a sample syllabus for the course. Note: if this course is double-numbered (u-grad/grad), the syllabus must include an additional component for graduate students.
Environmental Data Analysis

ENVR 3800/5800  Jeff Ueland
3 Credits

jueland@bemidjistate.edu

Readings and Resources:
To be supplied throughout the semester via D2L

Course description (content):

The aim of this course is to expose students to analytical methods for environmental applications. The class will provide a primer on introductory inferential statistics (sampling, probability, central tendencies, spread, t-tests and ANOVA) and work towards more advanced analytical applications which are geared towards research questions in Environmental Studies, Geology, and Geography. These techniques include multiple regression, logistic regression, multi-dimensional scaling, regression trees, cluster analysis, survival analysis and basic time series analysis. This class will focus on learning both the theoretical background and application of these methods and discuss the ethical and contextual issues that surround the use of statistical analysis in environmental research.

Learning outcomes:

Upon completion of this course students should:

- Students will develop a solid foundation in basic inferential statistics and sampling techniques
- Students will successfully design a research project and appropriately state research and null hypothesis statements.
- Students will develop the ability to identify the correct data and statistical test to utilize for any given study.
- Students will gain a basic proficiency in multiple statistical software including SPSS, Minitab and R.
- Students will explain and apply advanced environmental analytical methods including multiple regression, logistic regression, multi-dimensional scaling, regression trees, cluster analysis, survival analysis and basic time series analysis.
- Students will design, carry out, and disseminate results from a study using an advanced environmental analytical method.
Course requirements and expectations:

Obtaining prescribed materials; punctual class attendance; serious predisposition; focusing on learning and self-enrichment; active class participation; engaging in class discussions; raising why and how questions; taking notes in class; developing analytical reading skills; studying independently; establishing study groups; handing in assignment on time; making appointments with the lecturer when necessary; upholding academic integrity.

Course Homepage and Email Contact:

For this course all content, including lectures and handouts can be found on the D2L site created for this course. You can log onto your D2L account and find the course and all the material will be accessible to you. You must also use only your BSU email accounts to correspond for this course. It is also your responsibility to check the D2L site frequently as I will post all important class changes and messages at this location. All changes to the course schedule made in class are the responsibility of the student.

Graduate Students Taking this Course:

You will be required to complete an additional individual project that will focus on examining an advanced topic related to Environmental Analysis. I would highly recommend that you attempt to dove-tail this with your thesis or dissertation project. It will give you a chance to develop some of your data sources and create analysis in a classroom environment and get a start on some of the preliminary writing. Even if you are doing a project that is more qualitative in nature, you may be able to utilize this opportunity to help you refine your argument. A handout of the exact format of the project will be made available later in the semester. The subject matter used for projects is wide open, but you will have to use some aspect that we have covered in lecture, lab, or readings. Your best bet is to focus on the data collection, methods used, and explaining your analysis of the problem. This additional project will constitute 30% of your grade while the other assigned material (outlined below) will constitute 70% of your grade.

Tentative Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Material</th>
<th>Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TBD</td>
<td>Introduction, Measures of Central Tendency</td>
<td>TBD</td>
</tr>
<tr>
<td>2</td>
<td>TBD</td>
<td>Probability, hypothesis testing and research design</td>
<td>TBD</td>
</tr>
<tr>
<td>3</td>
<td>TBD</td>
<td>Sampling, statistical power</td>
<td>TBD</td>
</tr>
<tr>
<td>4</td>
<td>TBD</td>
<td>t-tests</td>
<td>TBD</td>
</tr>
<tr>
<td>5</td>
<td>TBD</td>
<td>ANOVA</td>
<td>TBD</td>
</tr>
</tbody>
</table>
Grading:
You will attend weekly classes, complete assignments as provided, a final project, and a final exam. Projects will be turned-in in digital format to the D2L site. Each project will consist of a single pdf or word document that contains the completed material. It is a good practice to save all of your graded and returned assignments until you receive your grade for the course. The weighting for the projects and exam will be as follows:

<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
<th>% of Grade</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Completion in-class/independent assignments</td>
<td>40</td>
<td>TBA</td>
</tr>
<tr>
<td>Final Project</td>
<td>Project (extra credit for presenting at student achievement day)</td>
<td>35</td>
<td>TBA</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Final Exam</td>
<td>20</td>
<td>TBA</td>
</tr>
<tr>
<td>Attendance</td>
<td>Daily attendance taken</td>
<td>5</td>
<td>Daily</td>
</tr>
</tbody>
</table>
Individual Project:

Each student will develop an individual project that and uses one of the methods learned throughout the semester to solve a question using environmentally themed data. The questions should follow a standard research process that we will discuss early in the class. It will be a formal research project and can be submitted as paper (~10 pages) or poster. Extra Credit will be offered if the student presents the work at student achievement day.

Grading Schedule:

A: 90%-100%  B+: 87%-89.9%  B: 80%-86.9  C+: 77%-79.9%  C: 70%-76.9%
D+: 67%-69.9%  D: 60%-66.9%  F: 0%-59.9%

Delivery of Assignments and Late Assignments:

I do not accept late assignments. All assignments will be turned in on D2L unless otherwise specified.

Attendance:

Since this course relies heavily on in-class demonstrations and project work, attendance is critical. You get one unexcused absence that will not affect grading. Each additional absence will proportionally decreases your final grade. Roll will be taken in class daily. The following and only the following absences are eligible to be excused and properly documented: religious holidays, as specified in BSU policy; absences due to representing BSU at official functions, verified emergencies and/or illness. While one is not penalized per se for excused absences, s/he is nevertheless responsible for all content missed, including any assignments, knowledge, or skills covered or assigned in the missed class(es). If you do miss class, you should make every effort to contact me before the next class period, so that you can catch up on the missed material. No “extra” credit is available, and all projects and the final exam must be completed to pass the course. I will post all grades and additional handouts on D2L so make sure to check the site regularly.

Computer Lab Use

If you happen to be on campus, the department of geography has a computer lab that can be utilized when there are not classes being held. The lab is in Sattgast 248. This lab is available for your computer-based assignments in this course outside of class time as well. You can use the lab whenever it is open. No food or drinks are allowed in the lab and it is reserved for coursework only – i.e. not web surfing. This is an open lab, you will need a flashdrive or some other storage device to back-up your projects and continue your work outside of the lab.
Academic Integrity:

BSU students are expected to practice the highest standards of ethics, honesty and integrity in all of their academic work. Any form of academic dishonesty (e.g., plagiarism, cheating and misrepresentation) may result in disciplinary action. Possible disciplinary actions may include failure for part or an entire course as well as suspension from the University. It is suggested that students review BSU’s statement on academic integrity found within the Student Code of Conduct.

Disruptive Behavior in the Classroom:

We at Bemidji State University believe the classroom is an environment where civility, human dignity and respect is maintained. Any variation from this for example yelling or saying profanity at an instructor or another person in the classroom, or any other loud, lewd, belligerent or obnoxious behavior resulting in a disruption from teaching, and learning are violations of the Code of Conduct and will not be tolerated. If this occurs, you will be asked to leave the classroom not to return until you meet with the University Conduct Officer and you could be subject to a judicial hearing.

Extended Leave Procedure:

If student has to be away from class from an extended period of time (more than two class sessions) for medical emergencies or a funeral, you are asked to contact the Student Life and Success Office where a leave notice will be given to your faculty. This notice informs the faculty of your departure and return date back to campus. This leave does not absolve you from any assignment you have due during your leave. You are to make arrangements with your instructors of when to complete any assignments due during the leave period. You can complete a leave form as this website [https://www.bemidjistate.edu/offices/student-life-success/extended-absence/](https://www.bemidjistate.edu/offices/student-life-success/extended-absence/)

Students with Special Needs:

BSU is committed to making all educational programs, course materials, services and activities sponsored by the University accessible to individuals with disabilities. Students requesting accommodations due to a disability or other need for access should contact Accessibility Services as soon as possible. Accessibility Services is located at Decker Hall 202. PH: 218.755.3883 or email: accessibility@bemidjistate.edu. This information is also available through Minnesota Relay Services at 800.627.3529.

Tutoring availability:

BSU is committed to assisting our students in their academic endeavors and has in place the Advising Success Center as a valuable resource: [https://www.bemidjistate.edu/services/advising-success-center/services/tutoring/](https://www.bemidjistate.edu/services/advising-success-center/services/tutoring/)
The Minnesota State system has updated the online tutoring service available to our students. We are now partnering with Tutor.com to offer 24/7 online tutoring, which will connect students with an expert tutor for extra assistance one-on-one. Online tutoring services can be accessed through the main page in D2L and your course page, by clicking on the tutor.com link, located in the “HelpLinks” menu.

All students will receive 15 hours of tutoring at no cost. Tutoring services cover a variety of subject areas including math, writing, accounting, economics, biology, languages and nursing. Additional time may be purchased by students directly through tutor.com.

Mental Health and Counseling:

Students may experience mental health concerns or stressful events that may lead to diminished academic performance. The Student Center for Health & Counseling is available to assist you with concerns and can include stress relief services. They can be reached in Cedar Hall, First Floor. Phone: (218) 755-2053.

Accessibility statement:

Upon request this document can be made available in alternate formats. Please contact Accessibility Services at 755-3883.
New Course Form

Course Number: 
  Undergraduate:  
  Graduate: 6790

Course Title: Environmental Project Management

Course Description: Students will learn the fundamentals of the management of environmental projects, including stakeholder engagement, planning and achieving realistic project milestones, and modifications needed to ensure project success. A practical investigation of grantsmanship with emphases on funding sources, creative writing, effective conduct of project and reporting results. Gives students first-hand practice in all phases of grantsmanship. Review and critique both qualitative and quantitative model proposals.

Credits: 3

Prerequisite(s): 
  Undergraduate: 
  Graduate: none

1. Reason(s) for creating this course: Course aligns better with new curriculum changes for the program.

2. How often will this course be offered? Annually Spring term

3. What are the student learning outcomes for the course (please precede each outcome with "Students will...")?
   - Understand and apply basic fundamentals for managing environmental projects
   - Be able to identify appropriate funding sources for desired projects,
   - Draft a funding proposal,
   - Critique grant proposals,
   - Complete grant proposal
   - Complete a comprehensive draft management plan for a project

4. What are the major content areas for the course?
   - Grant proposal writing
   - Stakeholder engagement
   - Management techniques
5. Is this course repeatable for credit, and if so, what is the maximum number of credits that can be earned? Not repeatable

6. If this course is intended primarily for off-campus delivery (not offered on campus), what delivery mechanism will be used? Will be offered both on-campus and online

7. What is the projected maximum class size (cap)? 25

8. What qualified faculty will be available to teach this course? Carl Isaacson and Anna Carlson

NOTE WELL: Department and dean, in approving this proposal, attest both to the adequacy of the qualifications of faculty here named, and to their availability to teach the course at the frequency specified above, without excessive overload or disruption to other curriculum.

9. What additional library and other resources need or should be provided for this course, that are not already available?

10. What special personal property or service fee(s) would be charged to students taking this course? These charges would be for 1) items that are retained by the student and have an educational or personal value beyond the classroom, or 2) services that are on the student’s behalf (see MnSCU Board Policy 5.11).
    Amount per student: $
    For:

11. Attach a sample syllabus for the course. Note: if this course is double-numbered (u-grad/grad), the syllabus must include an additional component for graduate students.
Course Description: Students will learn the fundamentals of the management of environmental projects, including stakeholder engagement, planning and achieving realistic project milestones, and modifications needed to ensure project success. A practical investigation of grantsmanship with emphases on funding sources, creative writing, effective conduct of project and reporting results. Gives students first-hand practice in all phases of grantsmanship. Review and critique both qualitative and quantitative model proposals.

Class Format:

The instructional materials for this class will include: lectures, videos, in-class and homework, guest lectures, as well as online materials.

Texts and Readings:

The textbook for this class is:

The complete Book of Grant Writing
Nancy Burke Smith & E. Gabriel Works
ISBN-9781402267291

Additional materials will be provided in class or through the D2L website.

STUDENT LEARNING OUTCOMES

Upon successful completion of Grants and Contracts, students will:

- Understand and apply basic fundamentals for managing environmental projects
- Be able to identify appropriate funding sources for desired projects,
- Draft a funding proposal,
- Critique grant proposals,
- Complete grant proposal
• Complete a comprehensive draft management plan for a project

Class Policies

1. Discussion of controversial topics is expected to be polite and respectful at all times.

2. Inappropriate use of electronic devices (e.g. checking social media) is not permitted, use of electronic devices for taking notes or in class activities is allowed.

3. Students are expected to do their own work on reports and exams (See BSU Statement of Academic Integrity below).

4. No extra credit is available in this class.

5. Excluding extraordinary health circumstances, no grade changes are possible once grades have been assigned at the end of the semester.

6. Upon request, this document can be made available in alternate formats. (See Alternate Formats and Accommodations below)

Grading ENVR 6800

Grades will be assessed on the following assignments:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
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<tr>
<td>2</td>
<td>5</td>
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<tr>
<td>3</td>
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<td>9</td>
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<tr>
<td>10</td>
<td>2.5</td>
</tr>
<tr>
<td>11</td>
<td>2.5</td>
</tr>
</tbody>
</table>
Assignments will be given throughout the semester. Typically a topic will be discussed in class and then the following week an assignment on that topic will be due. As guest speakers will be brought in as their availability allows.

**Grade Distribution:** the following grade scale for the semester may be curved depending on class performance:

<table>
<thead>
<tr>
<th>Grade Scale</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;90%</td>
<td>A</td>
</tr>
<tr>
<td>80-89%</td>
<td>B</td>
</tr>
<tr>
<td>70-79%</td>
<td>C</td>
</tr>
<tr>
<td>60-69%</td>
<td>D</td>
</tr>
<tr>
<td>&lt;59%</td>
<td>F</td>
</tr>
</tbody>
</table>

**Class Schedule:**

(Schedule subject to change: particularly depending on availability of guest speakers, speakers in **green** are confirmed)

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Assignment #</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1 Jan 11</td>
<td>Introduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 2 Jan 25</td>
<td>Holiday: No Class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 3 Feb 1</td>
<td>Reactive grant seeking</td>
<td>1</td>
<td>Statement of Problem</td>
</tr>
<tr>
<td>Week 4 Feb 8</td>
<td>Identifying Appropriate Funding Sources</td>
<td>2</td>
<td>Summary of an RFP</td>
</tr>
<tr>
<td>Week 5 Feb 15</td>
<td>Monte Hegg BSU Grants Manager Writing the proposal: Abstract</td>
<td>3</td>
<td>Letter of Inquiry</td>
</tr>
<tr>
<td>Week 6 Feb 22</td>
<td>Writing the proposal: Statement of problem</td>
<td>4</td>
<td>Abstract</td>
</tr>
<tr>
<td>Week 7 Mar 1</td>
<td>Rebecca Hoffman BSU Social Work Grant writing and Business Plans: Grant Writing and Business Plans</td>
<td>5</td>
<td>Descriptive Write up</td>
</tr>
<tr>
<td>Week 8 March 8</td>
<td>Spring Break</td>
<td>6</td>
<td>Budget</td>
</tr>
<tr>
<td>Week 9 March 15</td>
<td>Melinda Neville Leech Lake Tribal College: Writing the proposal: Project description</td>
<td>7</td>
<td>Plan for evaluation and reporting</td>
</tr>
</tbody>
</table>
Writing Resource Center:

Located in room 326 of the A.C. Clark Library, the Writing Resource Center offers free, one-on-one assistance with all types of writing assignments and projects. Our trained peer and faculty consultants provide constructive feedback to help you get started on a paper, organize your ideas, cite sources, develop revision strategies, polish final drafts, and more. To schedule a face-to-face or online session, visit [https://bemidji.mywconline.com](https://bemidji.mywconline.com).

Academic Integrity:

BSU students are expected to practice the highest standards of ethics, honesty and integrity in all of their academic work. Any form of academic dishonesty (e.g., plagiarism, cheating and misrepresentation) may result in disciplinary action. Possible disciplinary actions may include failure for part or an entire course as well as suspension from the University. It is suggested that students review BSU’s statement on academic integrity found within the Student Code of Conduct.

Disruptive Behavior in the Classroom:

We at Bemidji State University believe the classroom is an environment where civility, human dignity and respect is maintained. Any variation from this for example yelling or saying profanity at an instructor or another person in the classroom, or any other loud, lewd, belligerent or obnoxious behavior resulting in a disruption from teaching, and learning are violations of the Code of Conduct and will not be tolerated. If this occurs, you will be asked to leave the classroom not to return until you meet with the University Conduct Officer and you could be subject to a judicial hearing.

Extended Leave Procedure:

If student has to be away from class from an extended period of time (more than two class sessions) for medical emergencies or a funeral, you are asked to contact the Student Life and Success Office where a leave notice will be given to your faculty. This notice informs the faculty of your departure and return date back to campus. This leave does not absolve you from any assignment you have due during your leave. You are to make arrangements with your instructors of when to complete any assignments due during the leave period. You can complete a leave form as this website [https://www.bemidjistate.edu/offices/student-life-success/extended-absence/](https://www.bemidjistate.edu/offices/student-life-success/extended-absence/)

Students with Special Needs:
If a student would like to request accommodations or other services, please contact the instructor as soon as possible. It is also possible to forward your request to Accessibility Services at Decker Hall 202. Phone: (218) 755-3883 or e-mail address: accessibilityservices@bemidjistate.edu. This information is also available through Minnesota Relay Services at (800) 627-3529.

Tutor.com:

The Minnesota State system has updated the online tutoring service available to our students. We are now partnering with Tutor.com to offer 24/7 online tutoring, which will connect students with an expert tutor for extra assistance one-on-one. Online tutoring services can be accessed through the main page in D2L and your course page, by clicking on the tutor.com link, located in the “HelpLinks” menu.

All students will receive 15 hours of tutoring at no cost. Tutoring services cover a variety of subject areas including math, writing, accounting, economics, biology, languages and nursing. Additional time may be purchased by students directly through tutor.com.

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BSU Curriculum Forms

Form 4
Updated 9.19.15

Course Drop Form

(Use this form to drop a course from the university curriculum file. To drop a course from a program only, use Form 5 Program Modification Form)

Course Number:
Undergraduate:
Graduate: ENVR 6300 (2 credits)

Course Title: Advanced Project in Literature Review

New or current courses that will universally replace this dropped course for students remaining in the old curriculum: ENVR 6400 Research and Project Design

This dropped course is a requirement or an elective in the programs/areas listed below. To locate where this course appears please search the online catalog, as follows:
1) go to http://www.bemidjistate.edu/academics/catalog/ and choose the most recent catalog(s),
2) click on “Areas of Study, and Course Descriptions,”
3) click on “PDF of Entire Catalog” in upper right,
4) press Ctrl F, and enter the prefix and number of the course(s) from this form.

Non-licensure programs:
Teacher Licensure programs:

Liberal Education:
The above “service area” programs/departments were notified of this modification on _9/26/18_____ (date) by __email________________ (mail, email, or phone).

Please check one of the items below:

___ ___ No comments were received from other programs or departments within one week of the notification.

_______ Comments were received within one week of the notification, and are attached.

Reason(s) for dropping this course: The course content will now be taught in the modified version of ENVR 6400.
**BSU Curriculum Forms**  
**Form 4**  
Updated 9.19.15

**Course Drop Form**

(Use this form to drop a course from the university curriculum file.  
To drop a course from a program only, use Form 5 Program Modification Form)

Course Number:  
Undergraduate:  
Graduate: **ENVR 6350 (3 credits)**

**Note:** This course is crosslisted with BIOL 6350; Only ENVR 6350 will be dropped from curriculum.

Course Title: **Computer Applications in Statistics**

New or current courses that will universally replace this dropped course for students remaining in the old curriculum: **ENVR 5800**

This dropped course is a requirement or an elective in the programs/areas listed below. To locate where this course appears please search the online catalog, as follows:

1) go to [http://www.bemidjistate.edu/academics/catalog/](http://www.bemidjistate.edu/academics/catalog/) and choose the most recent catalog(s),

2) click on “Areas of Study, and Course Descriptions,”

3) click on “PDF of Entire Catalog” in upper right,

4) press Ctrl F, and enter the prefix and number of the course(s) from this form.

Non-licensure programs:

Teacher Licensure programs:

Liberal Education:

The above “service area” programs/departments were notified of this modification on _______ (date) by ________________ (mail, email, or phone).

Please check one of the items below:

_____ No comments were received from other programs or departments within one week of the notification.

_____ Comments were received within one week of the notification, and are attached.

**Reason(s) for dropping this course:**  
The course is being replaced by ENVR 5800 to better serve our graduate students.
BSU Curriculum Forms
Form 4
Updated 9.19.15

Course Drop Form

(Use this form to drop a course from the university curriculum file.
To drop a course from a program only, use Form 5 Program Modification Form)

Course Number:
   Undergraduate:
   Graduate: **ENVR 6890 (2 credits)**

**Note:** This course is crosslisted with BIOL 6890; Only ENVR 6890 will be dropped from curriculum.

Course Title: **Grants and Contracts**

New or current courses that will universally replace this dropped course for students remaining in the old curriculum: **ENVR 6790 Environmental Project Management**

This dropped course is a requirement or an elective in the programs/areas listed below. To locate where this course appears please search the online catalog, as follows:
   1) go to [http://www.bemidjistate.edu/academics/catalog/](http://www.bemidjistate.edu/academics/catalog/) and choose the most recent catalog(s),
   2) click on “Areas of Study, and Course Descriptions,”
   3) click on “PDF of Entire Catalog” in upper right,
   4) press Ctrl F, and enter the prefix and number of the course(s) from this form.

Non-licensure programs:

Teacher Licensure programs:

Liberal Education:

The above “service area” programs/departments were notified of this modification on ______ (date) by __________________ (mail, email, or phone).

Please check one of the items below:
   ______ No comments were received from other programs or departments within one week of the notification.
   ______ Comments were received within one week of the notification, and are attached.

**Reason(s) for dropping this course:**
**Will no longer offer course it will instead be offered as ENVR 6790.**
Form 5
Program Modification Form

Program to be modified: Environmental Studies MS graduate program

List all proposed change(s):

• Drop ENVR 6300 Advanced Project in Literature Review
• Drop ENVR 6350 Computer Applications in Statistics
• Drop ENVR 6890 Grants and Contracts
• Eliminate ENVR 6300 as a core requirement in the program
• Eliminate ENVR 6350 as a core requirement in the program
• Modify course title, description, and/or credit number for ENVR 6400, ENVR 6600, ENVR 6700
• Add ENVR 5800 and 6790
• Add several additional options to the electives list
• Create two pathways for students, which adds a 32 credit non-thesis option.

Reason(s) for the change(s):

The changes better reflect the needs of the graduate students by better preparing them for the workplace or for more advanced studies.

Note: In order to avoid hidden prerequisites, if a course is being dropped from this program (but not from the entire curriculum), please check for which remaining courses may include this dropped course as a prerequisite. Course prerequisites may be found in the online catalog (http://www.bemidjistate.edu/academics/catalog/). Remedies for hidden prerequisites may be found under Curriculum Forms at (http://www.bemidjistate.edu/faculty_staff/faculty_association/forms/).

Note: If a course from another department/program was either added to or dropped from this program, please notify the chair/coordinator of that course's department/program and indicate the following:
The course’s home department/program was notified of the addition or dropping of their course(s) on _9/26/18________ (date) by ___email________________ (mail, email, or phone).

Please check one of the items below:

___X___ No comments were received from other programs or departments within one week of the notification.

______ Comments were received within one week of the notification, and are attached.
Note: If this is a joint program, the signatures of both department chairs (and both deans, if different colleges) must be provided.

Alert: Attach a copy of the current program showing the marked changes. Please copy the current program from the online catalog (http://www.bemidjistate.edu/academics/catalog/) and paste it into Word. Then use either the Track Changes feature under Tools, or the underline and strikethrough Font feature under Format. (Please note that the Track Changes feature may be easily switched on and off by holding down the Ctrl+Shift+E keys.)
Current Program with marked changes

Master of Science - Environmental Studies

The Master of Science program accommodates individual student needs and backgrounds and provides students with several curricular and research opportunities. The interdisciplinary curriculum focuses on the natural and social sciences as they relate to environmental problem solving. Each graduate student is required to select a specialization, complete course work requirements, and conduct a research project leading to a thesis. Each M.S. thesis option graduate student is required to complete course work requirements and conduct a research project leading to a thesis. Each M.S. non-thesis option graduate student is required to complete course work requirements and a capstone report.

Center for Sustainability Studies

The Center provides a focus for (1) applied environmental research by faculty and students and (2) the interdisciplinary academic Environmental Studies program. Applied environmental research in the Center focuses on both generic and regional problems related to pollution impacts and abatement, and natural resource utilization and protection within the context of sustainability. Special features of the Center include: laboratories and equipment devoted to ecological, chemical, Geographic Information Systems, microbiological, and toxicological studies. Working with the Center, students have opportunities to interact with authorities across disciplines through seminars, conferences, and cooperative research.

Environmental Studies, M.S. masters

Preparation Requirements
Bachelor's degree from regionally accredited U.S. or approved international college or university, with course work equivalent to a major or minor in the natural or social sciences. One-page letter of intent stating the Environmental Studies research you want to pursue, your academic background, your professional work experience (if any), and any additional information you believe will assist those reviewing your application. For the application to be complete, the Graduate Record Exam (GRE) is required.

Required Credits: 30 (Thesis) or 32 (Non-Thesis)
Required GPA: 3.0
Pathway 1: Thesis Option (30 credits)

I. REQUIRED CORE

Complete the following courses:

- ENVR 5800 Environmental Data Analysis (3 credits)
- ENVR 6250 Advanced Environmental Studies (3 credits)
- ENVR 6300 Advanced Project in Literature Review (2 credits)
- ENVR 6400 Advanced Project in Methodology Research and Project Design (2-3 credits)
- ENVR 6500 Advanced Graduate Project I (2 credits)
- ENVR 6600 Advanced Graduate Project II (2 credits)
- ENVR 6700 Graduate Environmental Seminar (1-3 credits) Complete for 3 credits
- ENVR 6890 Grants and Contracts (2 credits)
- ENVR 6790 Environmental Project Management (3 credits)
- ENVR 6350 Computer Applications in Statistics (3 credits)

COMPLETE THE FOLLOWING COURSE:
Enroll for 1-credit - two different terms

- ENVR 6700 Graduate Environmental Seminar (1-3 credits)

II. REQUIRED ELECTIVE COURSES

Select, with the consent of thesis advisor, at least 9 credits of graduate level coursework in Environmental Studies, Geology, or related field. Course options include:

- ECON 5040 Environmental Economics (3 credits)
  or ENVR 5040 Environmental Economics (3 credits)
- ENVR 5050 Geochemistry (3 credits)
- ENVR 5110 Environmental Chemistry (3 credits)
- ENVR 5200 Wastewater Treatment (3 credits)
- ENVR 5210 Environmental Law and Policy (3 credits)
- ENVR 5220 Sampling and Analysis (4 credits)
- ENVR 5230 Air Pollution Technology (4 credits)
- ENVR 5240 Waste Management (4 credits)
- ENVR 5260 Risk Assessment and Auditing (3 credits)
- ENVR 5300 Environmental Management and Safety (3 credits)
- ENVR 5400 Environmental Microbiology (3 credits)
- ENVR 5500 Environmental Toxicology (4 credits)
- ENVR 5600 Environmental Justice and Sustainability (3 credits)
- ENVR 5610 Sustainability: Theory and Practice (3 credits)
- ENVR 5710 Indigenous Environmental Knowledge: Global Perspective (3 credits)
- ENVR 5720 Food Sovereignty, Health & Indigenous Environments (3 credits)
- ENVR 5730 Sustainable Communities: Local Indigenous Perspective (3 credits)
- ENVR 5740 Environment, Wellness & the Sacred Connection of Place (3 credits)
• ENVR 5750 Sustainable Communities: Global Indigenous Perspective (3 credits)
• ENVR 5840 Wetlands Ecology (3 credits)
  or BIOL 5840 Wetlands Ecology (3 credits)
• ENVR 6920 Directed Group Study: Seminar (2 credits)
• GEOL 5120 Soils (4 credits)
  or BIOL 5120 Soils (4 credits)
• GEOL 5211 Environmental Hydrology (3 credits)
• GEOL 5212 Hydrogeology (3 credits)
• GEOL 5300 Global Environmental Change (3 credits)
• GEOL 5400 Glacial and Pleistocene Geology (3 credits)
• GEOL 5500 Topics in Paleontology (3 credits)
• GEOL 5600 Stratigraphy and Sedimentation (3 credits)
• GEOL 5700 Environmental Geophysics (3 credits)
• GEOG 5125 Weather and Climate (3 credits)
• GEOG 5130 Biogeography (3 credits)
• GEOG 5140 Landscape Geography (3 credits)
• GEOG 5231 Introduction to Geographic Information Systems (3 credits)
• GEOG 5232 Intermediate Geographic Information Systems (3 credits)
• GEOG 5255 Introduction to Remote Sensing (3 credits)
• GEOG 5265 Spatial Analysis (3 credits)
• GEOG 5275 Advanced Geographic Information Systems (3 credits)
• GEOG 5532 Political Ecology (3 credits)
• GEOG 5570 Public Lands Planning (3 credits)
• GEOG 5600 Conservation Biology (3 credits)
  or BIOL 5600 Conservation Biology (3 credits)

ENVR 6700 may be repeated two additional times for 2 additional elective credits
  • ENVR 6700 Graduate Environmental Seminar (1 credit)

III. Thesis Option
Complete the following course for 6 credits
  • ENVR 6990 Thesis (1-6 credits)

Pathway 2: Non-Thesis Option: course work only (32 credits)
I. REQUIRED CORE
Complete the following courses:

  • ENVR 5800 Environmental Data Analysis (3 credits)
  • ENVR 6250 Advanced Environmental Studies (3 credits)
- ENVR 6400 Research and Project Design (3 credits)
- ENVR 6700 Graduate Environmental Seminar (1-3 credits) Complete for 3 credits
- ENVR 6790 Environmental Project Management (3 credits)

II. REQUIRED ELECTIVE COURSES
Select, with the consent of the thesis advisor, at least 12 credits of graduate level coursework in Environmental Studies, Geology, or related field. Course options include:

- ECON 5040 Environmental Economics (3 credits)
  or ENVR 5040 Environmental Economics (3 credits)
- ENVR 5050 Geochemistry (3 credits)
- ENVR 5110 Environmental Chemistry (3 credits)
- ENVR 5200 Wastewater Treatment (3 credits)
- ENVR 5210 Environmental Law and Policy (3 credits)
- ENVR 5220 Sampling and Analysis (4 credits)
- ENVR 5230 Air Pollution Technology (4 credits)
- ENVR 5240 Waste Management (4 credits)
- ENVR 5260 Risk Assessment and Auditing (3 credits)
- ENVR 5300 Environmental Management and Safety (3 credits)
- ENVR 5400 Environmental Microbiology (3 credits)
- ENVR 5500 Environmental Toxicology (4 credits)
- ENVR 5600 Environmental Justice and Sustainability (3 credits)
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- ENVR 5750 Sustainable Communities: Global Indigenous Perspective (3 credits)
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• GEOG 5255 Introduction to Remote Sensing (3 credits)
• GEOG 5265 Spatial Analysis (3 credits)
• GEOG 5275 Advanced Geographic Information Systems (3 credits)
• GEOG 5532 Political Ecology (3 credits)
• GEOG 5570 Public Lands Planning (3 credits)
• GEOG 5600 Conservation Biology (3 credits)
  or BIOL 5600 Conservation Biology (3 credits)

III. Non-Thesis Option

Complete the following:

• ENVR 6600 Capstone Report (2 credits)
• ENVR 6970 Internship (3 credits)

COMPETENCY REQUIREMENT
All graduate students in Environmental Studies are required to demonstrate competency in the computer application of statistics. This requirement is to be satisfied by the completion of the following course with a grade of B or better: ENVR 6350 Computer Applications in Statistics, 3 credits, or ENVR 5800 Environmental Data Analysis, 3 credits, or equivalent.

Written Examination
All major programs require satisfactory completion of a final written examination, which needs to be successfully completed prior to scheduling the oral examination. Please consult with your academic advisor for requirements specific to your area of study.
CLEAN COPY OF THE PROGRAM

Master of Science - Environmental Studies

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Environmental Studies, M.S. master

Preparation Requirements

Bachelor's degree from regionally accredited U.S. or approved international college or university. One-page letter of intent stating the Environmental Studies research you want to pursue, your academic background, your professional work experience (if any), and any additional information you believe will assist those reviewing your application.

Required Credits: 30 (Thesis) or 32 (Non-Thesis)
Required GPA: 3.0

Pathway 1: Thesis Option (30 credits)

I. REQUIRED CORE

Complete the following courses:

- ENVR 5800 Environmental Data Analysis (3 credits)
ENVR 6250 Advanced Environmental Studies (3 credits)
ENVR 6400 Research and Project Design (3 credits)
ENVR 6700 Graduate Environmental Seminar (1-3 credits)
Complete for 3 credits
ENVR 6790 Environmental Project Management (3 credits)

II. REQUIRED ELECTIVE COURSES
Select, with the consent of thesis advisor, at least 9 credits of graduate level coursework in Environmental Studies, Geology, or related field. Course options include:

- ECON 5040 Environmental Economics (3 credits)
or ENVR 5040 Environmental Economics (3 credits)
- ENVR 5050 Geochemistry (3 credits)
- ENVR 5110 Environmental Chemistry (3 credits)
- ENVR 5200 Wastewater Treatment (3 credits)
- ENVR 5210 Environmental Law and Policy (3 credits)
- ENVR 5220 Sampling and Analysis (4 credits)
- ENVR 5230 Air Pollution Technology (4 credits)
- ENVR 5240 Waste Management (4 credits)
- ENVR 5260 Risk Assessment and Auditing (3 credits)
- ENVR 5300 Environmental Management and Safety (3 credits)
- ENVR 5400 Environmental Microbiology (3 credits)
- ENVR 5500 Environmental Toxicology (4 credits)
- ENVR 5600 Environmental Justice and Sustainability (3 credits)
- ENVR 5840 Wetlands Ecology (3 credits)
or BIOL 5840 Wetlands Ecology (3 credits)
- ENVR 6920 Directed Group Study: Seminar (2 credits)
- GEOL 5120 Soils (4 credits)
or BIOL 5120 Soils (4 credits)
- GEOL 5211 Environmental Hydrology (3 credits)
- GEOL 5212 Hydrogeology (3 credits)
- GEOL 5300 Global Environmental Change (3 credits)
- GEOL 5400 Glacial and Pleistocene Geology (3 credits)
- GEOL 5500 Topics in Paleontology (3 credits)
- GEOL 5600 Stratigraphy and Sedimentation (3 credits)
- ENVR 5610 Sustainability: Theory and Practice (3 credits)
- ENVR 5710 Indigenous Environmental Knowledge: Global Perspective (3 credits)
- ENVR 5720 Food Sovereignty, Health & Indigenous Environments (3 credits)
- ENVR 5730 Sustainable Communities: Local Indigenous Perspective (3 credits)
- ENVR 5740 Environment, Wellness & the Sacred Connection of Place (3 credits)
- ENVR 5750 Sustainable Communities: Global Indigenous Perspective (3 credits)
- GEOL 5700 Environmental Geophysics (3 credits)
- GEOG 5125 Weather and Climate (3 credits)
- GEOG 5130 Biogeography (3 credits)
- GEOG 5140 Landscape Geography (3 credits)
Ⅲ. Thesis Option
Complete the following course for 6 credits

- ENVR 6990 Thesis (1-6 credits)

Pathway 2: Non-Thesis Option: course work only (32 credits)

Ⅰ. REQUIRED CORE

Complete the following courses:

- ENVR 5800 Environmental Data Analysis (3 credits)
- ENVR 6250 Advanced Environmental Studies (3 credits)
- ENVR 6400 Research and Project Design (3 credits)
- ENVR 6700 Graduate Environmental Seminar (1-3 credits)
  Complete for 3 credits
- ENVR 6790 Environmental Project Management (3 credits)

Ⅱ. REQUIRED ELECTIVE COURSES
Select, with the consent of thesis advisor, at least 12 credits of graduate level coursework in Environmental Studies, Geology, or related field. Course options include:

- ECON 5040 Environmental Economics (3 credits)
  or ENVR 5040 Environmental Economics (3 credits)
- ENVR 5050 Geochemistry (3 credits)
- ENVR 5110 Environmental Chemistry (3 credits)
- ENVR 5200 Wastewater Treatment (3 credits)
- ENVR 5210 Environmental Law and Policy (3 credits)
- ENVR 5220 Sampling and Analysis (4 credits)
- ENVR 5230 Air Pollution Technology (4 credits)
- ENVR 5240 Waste Management (4 credits)
- ENVR 5260 Risk Assessment and Auditing (3 credits)
- ENVR 5300 Environmental Management and Safety (3 credits)
- ENVR 5400 Environmental Microbiology (3 credits)
- ENVR 5500 Environmental Toxicology (4 credits)
- ENVR 5600 Environmental Justice and Sustainability (3 credits)
- ENVR 5610 Sustainability: Theory and Practice (3 credits)
- ENVR 5710 Indigenous Environmental Knowledge: Global Perspective (3 credits)
- ENVR 5720 Food Sovereignty, Health & Indigenous Environments (3 credits)
- ENVR 5730 Sustainable Communities: Local Indigenous Perspective (3 credits)
- ENVR 5740 Environment, Wellness & the Sacred Connection of Place (3 credits)
- ENVR 5750 Sustainable Communities: Global Indigenous Perspective (3 credits)
- ENVR 5760 Sustainability: Theory and Practice (3 credits)
- ENVR 5840 Wetlands Ecology (3 credits)
  or BIOL 5840 Wetlands Ecology (3 credits)
- ENVR 6920 Directed Group Study: Seminar (2 credits)
- GEOL 5120 Soils (4 credits)
  or BIOL 5120 Soils (4 credits)
- GEOL 5211 Environmental Hydrology (3 credits)
- GEOL 5212 Hydrogeology (3 credits)
- GEOL 5300 Global Environmental Change (3 credits)
- GEOL 5400 Glacial and Pleistocene Geology (3 credits)
- GEOL 5500 Topics in Paleontology (3 credits)
- GEOL 5600 Stratigraphy and Sedimentation (3 credits)
- GEOL 5700 Environmental Geophysics (3 credits)
- GEOG 5125 Weather and Climate (3 credits)
- GEOG 5130 Biogeography (3 credits)
- GEOG 5140 Landscape Geography (3 credits)
- GEOG 5231 Introduction to Geographic Information Systems (3 credits)
- GEOG 5232 Intermediate Geographic Information Systems (3 credits)
- GEOG 5255 Introduction to Remote Sensing (3 credits)
- GEOG 5265 Spatial Analysis (3 credits)
- GEOG 5275 Advanced Geographic Information Systems (3 credits)
- GEOG 5532 Political Ecology (3 credits)
- GEOG 5570 Public Lands Planning (3 credits)
- GEOG 5600 Conservation Biology (3 credits)
  or BIOL 5600 Conservation Biology (3 credits)

III. Non-Thesis Option

Complete the following:

- ENVR 6600 Capstone Report (2 credits)
- ENVR 6970 Internship (3 credits)

COMPETENCY REQUIREMENT

All graduate students in Environmental Studies are required to demonstrate competency in the computer application of statistics. This requirement is to be satisfied by the completion of the following course with a grade of B or better: ENVR 5800 Environmental Data Analysis, 3 credits, or equivalent.
Written Examination
All major programs require satisfactory completion of a final written examination, which needs to be successfully completed prior to scheduling the oral examination. Please consult with your academic advisor for requirements specific to your area of study.
Form 8

Updated: 09.18.15

Signatures

William Sea / Assistant Professor / 6.12.2019

Proposer / Title / Date

Jeffrey Ueland / Chair / Center for Sustainability Studies / 6.12.2019

(Proposal also reviewed/supported by current chair Carl Isaacson)

Chair or Director / Department or Program / Date

Note: "All departmental recommendations [on curriculum] must be reviewed and approved by the department's faculty."--IFO/MnSCU Master Agreement 2009-2011, 20.A.3 (p. 80).

At this point, packet goes to Records Office/Curriculum Coordinator to be logged in to the Curriculum Proposal Progress Grid.

Joseph Ritter/ Individual and Community Health / 6.27.2019

Dean / College / Date

Note: If proposal is sent back to the Proposer, please notify the Curriculum Coordinator. If approved, packet goes to Academic Affairs Office.