

ACADEMIC SENATE PROPOSAL TRACKING SHEET
(Document To Be Originated by the Academic Senate Secretary On Canary Color Paper)

Proposal # 23-16	Title: New Course Proposal - BIOE 4XX Restoration Ecology
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(Proposal explanation, submitter and college dean signatures on attached program/degree or course revision form.)

All proposals MUST have their originating college faculty body (Arts, Sciences & Education; Health Sciences; Technical Sciences) approval and must be signed by the submitter and the college dean before being submitted to the Academic Senate Secretary.

1. Submit all proposals (using the appropriate Academic Senate program/degree and/or course revision forms or General Education Inclusion form) to the Academic Senate Secretary. **NOTE: Level 1 or Level 2 forms must be submitted concurrent with this proposal where applicable. For Education proposals, PEU approval must be received prior to forwarding the proposal to the Senate.**
2. The Academic Senate Secretary logs and numbers items and forwards them to the appropriate Academic Senate subcommittee(s): General Education (if applicable), or Curriculum. A digital copy of the proposal will be linked on the Academic Senate Proposal page by the Academic Senate Secretary.
3. The Academic Senate subcommittee(s) consider(s) the proposal. If approved, the proposal is returned to the Academic Senate Secretary for forwarding to the next committee. If a committee disapproves the proposal, the committee will provide written rationale to the originator, via the Academic Senate.* The originator may request that the item be forwarded to the next body for consideration. Upon completion of subcommittee action, the proposal will be returned to the Academic Senate Secretary for consideration at the next Academic Senate meeting.
4. The Academic Senate considers the proposal and recommends approval or disapproval. If approved, the proposal is forwarded to the Provost for consideration within 10 working days. If the Academic Senate disapproves the proposal, the Academic Senate will provide written rationale to the originator. * The originator may request that the item be forwarded to the Full Faculty for consideration, utilizing procedures set forth in the Senate Bylaws.
5. Approved proposals will be forwarded to the Provost. The Provost approves or disapproves the proposal. If approved, the proposal is then forwarded to the Chancellor. From this point forward, the Provost's Administrative Assistant will update the Proposal page on the website by contacting the webmaster.
7. The Chancellor approves or disapproves the proposal.
8. If approved, the proposal will then either be implemented or referred to MSU for further action. The tracking page on the Provost site will be updated as required.

Subcommittee and Academic Senate college representatives will notify their respective colleges of the progress of submitted proposals or the proposal may be tracked via the web page -- <http://www.msun.edu/admin/provost/senate/proposals.htm>

Documentation and forms for the curriculum process are also available on the web page: <http://www.msun.edu/admin/provost/forms.htm>

* If a proposal is disapproved, it is returned to the Dean of the submitting college who then notifies the originator.

See back for tracking form

	Date	Action Taken	Signature	Date	Comments/Reason for Disapproval	Sent to	Date	Transmittal E-mail sent
Received by Senate Secretary	12/1/2023	Tracking form initiated	<i>DocuSigned by: Brittany Garden</i>	12/1/2023		Sent to Curriculum Committee	12/1/2023	DocuSign
General Education Committee (if applicable)		<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved						
Curriculum Committee (if applicable)	1/4/2024	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	<i>DocuSigned by: Casey Donovan</i>	1/4/2024	Passed - Forward to Academic Senate			
Academic Senate	1/12/2024	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	<i>DocuSigned by: Valerie Guyant</i>	1/12/2024				
Provost	1/21/24	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	<i>DocuSigned by: [Signature]</i>	1/21/24				
Chancellor	1-26-2024	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	<i>DocuSigned by: Gregory O. Koyl</i>	1-26-2024		Provost	1-29-24	
MSU		<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved						
BOR		<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved						
NWCCU		<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved						
Provost		Advise originating college and Academic Senate of status. Update Web page.						
Registrar		Catalog/Policy Manual Update						

NOTE: The secretary of the Academic Senate will update the Academic Senate Proposal web page from initial receipt until the proposal reaches the Provost. The Provost's Administrative Assistant will ensure that the current status of each proposal is maintained on the Academic Senate Proposal web page from that point forward.
Academic Senate Form 1 (Revised 4/4/2023)

COURSE REVISION FORM

NEW DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY _____

- For purposes of this form, "For Information Only" should be used for catalog description or objective changes ONLY

College Arts, Sciences & Education Program Area **Biology (B65)**

Submitter *Teru Hildebrand, Ph.D.* Dean _____ Date _____
Signature Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):

This course is a new elective option for students that select the proposed Ecology and Conservation Biology Track in the Biology Program.

Course Prefix & No.: BIOE 4XX

Current Course Title:

Proposed Course Title (when applicable): Restoration Ecology

Current # of Credits:

Proposed # of Credits (when applicable): 3

[please specify degrees]:

Required by:

Selective in:

Elective in: Biology

General Education Category:

Lecture: 3

Lecture/Lab:

Gradable Lab:

Lecture contact hours per week: 3

Lab contact hours per week:

Current Catalog Description (include all prerequisites): None

Proposed or New Catalog Description (include all prerequisites):

A course for biology majors and students who plan to take additional courses in biology. The study of restoration ecology is the description and quantification of departures from characteristic ecosystem states. The science seeks to identify drivers of the system and to move those systems back to a less disturbed condition. As an integrated subject, restoration ecology includes related disciplines. The course examines restoration in light of ecological theories such as metapopulation sustainability, assemblage groups, community heterogeneity, and nutrient cycling. In addition, both spatial and temporal dimensions are covered and the impact of climate variability on restoration efforts is addressed. Prerequisites: BIOE 370/371 General Ecology Lecture and Lab

Course Outcomes/Objectives: Students will

1. Understand biodiversity and its importance in restoration ecology.
2. Compare and contrast various ecological theories in light of restoration efforts.
3. Develop basic competency using spatial analysis software (QGIS) and produce a restoration project map(s).
4. Recognize challenges (biological, social and cultural) to restorative efforts and acquire skills that aid in mediating those challenges.
5. Examine ways in which restorative ecology may drive evolution by impacting mechanisms that act on populations.
6. Provide examples of restorative ecology and their supportive scientific evidence.

Please note additional instructional resources needed, if any (including library materials, special equipment, and facilities). Approval does not indicate support for new faculty or additional resources.

A need for additional instructional resources is not anticipated.

RESTORATION ECOLOGY SYLLABUS
BIOE 4XX Lecture: MWF 1:00 – 1:50 PM
Hagener Science Center 215

INSTRUCTOR INFORMATION

Terri Hildebrand, Ph.D.	Office: HSC 205
Office hours: MWF -- 11:00 AM – 12:00 PM	Phone: (406) 265-3700 ext 3329 (office)
T -- 1:00 – 3:00 PM	(435) 868-8800 (mobile)
terri.hildebrand@msun.edu	

COURSE INFORMATION

Prerequisites: BIOE 370/371 General Ecology & Laboratory

Textbook: Palmer, M.A., Zedler, J.B., Falk, D.A. and Holl, K. 2016. Foundations of Restoration Ecology, 2nd Edition. Island Press. ISBN: 978-1610916974

Description: A course for biology majors and students who plan to take additional courses in biology. The study of restoration ecology is the description and quantification of departures from characteristic ecosystem states. The science seeks to identify drivers of the system and to move those systems back to a less disturbed condition. As an integrated subject, restoration ecology includes related disciplines. The course examines restoration in light of ecological theories such as metapopulation sustainability, assemblage groups, community heterogeneity, and nutrient cycling. In addition, both spatial and temporal dimensions are covered and the impact of climate variability on restoration efforts is addressed.

Learning

Outcomes: Students will

1. Understand biodiversity and its importance in restoration ecology.
2. Compare and contrast various ecological theories in light of restoration efforts.
3. Develop basic competency using spatial analysis software (QGIS) and produce a restoration project map(s).
4. Recognize challenges (biological, social and cultural) to restorative efforts and acquire skills that aid in mediating those challenges.
5. Examine ways in which restorative ecology may drive evolution by impacting mechanisms that act on populations.
6. Provide examples of restorative ecology and their supportive scientific evidence.

Teaching
Philosophy:

Students cannot learn about natural ecosystem restoration just by sitting in a lecture listening to a lecturer; I expect students to take an active role in learning. This requires each student comes to class prepared, ready to participate by asking questions, and by applying information to novel situations. I test on concepts and as well as the interpretation of information and data. It is to the student's advantage to attend lectures as well as labs. I strive to make this course valuable, informative, and enjoyable. Throughout the semester, I encourage discussion of comments or ideas about course content and organization. Because I believe all students have an equal right to learn, any behavior that disrupts the class or creates an environment hostile to learning cannot be condoned. Please respect the rights of others in the class.

EVALUATION

Students are assessed using lecture exams and a restoration project. These contribute to each grade as follows:

Exams (3 @ 100 pts each)	300 pts
Final Exam (cumulative)	150 pts
Restoration Project	300 pts

Grading Scale

A+	100%	A	95-99%	A-	90-94%	
B+	87-89%	B	84-86%	B-	80-83%	
C+	77-79%	C	74-76%	C-	70-73%	
D+	67-69%	D	64-66%	D-	60-63%	F < 60%

Healthy ecosystems promote healthy lives.

Exams: Exams are designed to ensure student understanding of material and their ability to apply and synthesize biological information. Each exam consists of a combination of objective (fill-in-the-blank, matching, etc.) and short answer or problem-solving questions. The primary source of exam material is derived from lecture, but questions also may focus on book material not covered in lecture. No exam is dropped, and makeup exams are given only in extreme circumstances and with arrangements made well in advance.

Restoration Project: Each student selects a disturbed system and develops a restoration plan for that area. Students are encouraged to make selections relevant to regional systems. The spatial analysis (GIS) component of the plan includes learning QGIS and producing layered maps that highlight restoration efforts. Each plan includes details on the specific steps taken as well as explanations for why each was considered necessary and the expected outcomes. The focus is on students assuming the role of land managers.

BRIGHTSPACE

This course uses the Brightspace learning system for course management. It is your responsibility to log onto Brightspace at www.msunonline.org and become familiar with the program during the first week of class. The most recent browser version of Google Chrome or Microsoft Edge is recommended for Brightspace use. Internet Explorer is NOT supported and will lead to issues. Brightspace is useable over a 56K modem; however, the faster & more reliable your Internet connection speed, the better the experience. The Brightspace login page has a link for you to run a system check.

ATTENDANCE POLICY

I have high expectations for my students, and I want them to succeed in understanding and applying the material presented in the course. The *primary* strategy for success in this course is communication, including the exchange of ideas with others in the class as well as consultations with the instructor. Attendance and participation are highly encouraged. If you cannot attend a class, please let me know in advance. You are responsible for getting a copy of the notes for the missed class. If you become ill or the victim of an emergency, let me know prior to the class meeting and accommodations may be made at my discretion.

STUDENT RESPONSIBILITIES

- Behave in a courteous and respectful manner toward the professor and fellow students. Inappropriate comments (e.g., racial or gender slurs) **WILL NOT BE TOLERATED**.
- Show up to class on time.
- Turn off cell phones during class. A cell phone present during an exam immediately results in a zero. I will confiscate phones if they are used (including texting) during class.

ACADEMIC INTEGRITY

Academic integrity is a central value in higher education. It rests on two principles: first, that academic work is represented truthfully as to its source and its accuracy, and second, that academic results are obtained by fair and authorized means. "Academic misconduct" occurs when either of these principles is knowingly violated.

The responsibility of academic integrity does not rest solely in the hands of the faculty and administration. It depends also on the attitude and spirit of the student body to create an atmosphere that promotes strong integrity. In other words, the students determine a school's level of character. The job of educators is to foster and encourage a feeling of honesty and quality. In this class, the concept of individual honor is designed to promote mutual trust and respect between students and faculty.

Examples of student academic misconduct include giving or receiving unauthorized assistance on examinations or in the preparation of notebooks, themes, reports, or other assignments; knowingly misrepresenting the source of any academic work; changing grades without authorization; forging signatures; or plagiarizing another's work. Students who are found guilty of academic misconduct are subject to a range of disciplinary actions, including suspension or dismissal. Instructors also are expected to abide by the principles of academic integrity and may be sanctioned for academic misconduct.

RESOURCES FOR STUDENTS

Accessibility Statement: As directed by Section 504 of the Rehabilitation Act and the Americans with Disability Act (ADA), any students with physical or learning disabilities have access to a variety of services at MSU-Northern. In order to access these services, students are encouraged to meet with the Accessibility Resource Coordinator, Johnna Antonich. During the meeting the student will complete an application, provide documentation of their disability (an IEP from high school, any Veteran or DV, and/or clinical documentation from a licensed professional), and complete accommodations request forms for their courses.

Johnna Antonich, Coordinator of Accessibility Resources
Cowan Hall 213C, (406) 265-3533
johnna.antonich@msun.edu

Veterans Statement: Veterans, Drilling Guard/Reserve Members, and active duty military personnel with special circumstances (e.g., upcoming deployments, drill requirements, disabilities) are welcome and encouraged to communicate these, in advance if possible, to the instructor. The MSU-Northern Office of Veteran Services is committed to serving all the needs of our veterans and assisting them during their transition from military life to that of a student. If you are a student veteran or veteran dependent and need any assistance with your transition, please contact Joshua Gomez, the coordinator of Veteran Services at MSU-Northern.

Katelyn Springer, Veterans Services Coordinator
Cowan Hall 220, 406.265.4190
katelyn.springer@msun.edu

Inclusivity Statement: I support an inclusive learning environment where diversity and individual differences are understood, respected, appreciated, and recognized as a source of strength. I expect that students, faculty, administrators and staff at MSUN will respect differences and demonstrate diligence in understanding how other peoples' perspectives, behaviors, and worldviews may be different from their own.

Tutoring Central: Tutoring Central offers professional and peer tutors in a wide range of disciplines, all approved by MSUN faculty. To request tutoring, please visit www.msun.edu/tutoring/index.aspx to schedule a tutoring appointment or e-mail tutoring@msun.edu and you will be placed with a tutor who specializes in your requested subject area.

Brightspace Technical Support: This course uses the Brightspace Learning Management System for course content, communication, and grading. Email brightspace@msun.edu or contact Jason Geer or Brittany Garden in the Office of Teaching & Learning Excellence for Brightspace support.

Jason Geer
Cowan Hall 104, 265-3767
Jason.geer@msun.edu

Brittany Garden
Cowan Hall 104, 265-3701
Brittany.garden@msun.edu

TOPICS

This class consist of five (5) focus areas:

- I. Foundational Concepts (Chapters 1-4)
Ecological dynamics, biodiversity drives restoration
- II. Populations and Communities (Chapters 5-11)
Genetics, invasive species, food webs, heterogeneity
- III. Ecosystem Processes (Chapters 12-14)
Nutrient dynamics, carbon and energy flow
- IV. Spatial and Temporal Dimensions (Chapters 15-17)
Island biogeography theory, climate change
- V. Synthesis and Challenges (Chapter 18)
Linking theory to practice



INFORMATION CONTAINED IN THIS SYLLABUS MAY BE SUBJECT TO CHANGE WITH ADVANCE NOTICE AS DEEMED APPROPRIATE BY THE INSTRUCTOR.
