

NRSM 265 Elements of Ecological Restoration

Fall 2016 Syllabus

Meeting times and location

- Tuesdays and Thursdays 12:30 PM-1:50 PM; Education Building, Room 214
- Saturday field trips (students must attend at least one).

Course objectives

The complex challenges involved with restoring degraded ecosystems requires an understanding not only of the science of restoration ecology, but also the management practices and social factors that lead to successful project implementation. This interdisciplinary course is designed to give students an overview of the natural and social elements of ecological restoration. Topics covered include the ecological foundations of restoration, restoration goals and practices in terrestrial and aquatic habitats, social perspectives on restoration, restoration policies and planning, and restoration initiatives in Montana and the United States.

Learning objectives

By the end of this course, students will have:

- A detailed understanding of the definition of ecological restoration and its relationship with other disciplines;
- A basic understanding of the scientific principles and management practices used to assist in the repair of forest, grassland, and aquatic systems;
- A basic understanding of the human dimensions of restoration, including its ethical underpinnings; and
- Improved capabilities to express ideas in verbal and written formats and to follow directions associated with assignments.

Format

The course is taught in discreet sections, each with a different set of instructors. A variety of teaching approaches will be used, including lectures, group activities, and fieldtrips.

Instructors

This course is team taught by faculty within the Ecological Restoration Program. Faculty contact information and office hours are listed below. Please either stop by their office hours or email them to make an appointment to meet with faculty, to ensure that they will have time for you.

Name	Email	Office hrs	Office location
Lacey Hankin (TA)	lacey.hankin@umontana.edu	Monday 11am-12pm Or by appointment	CHB 445
Lisa Eby	lisa.eby@umontana.edu	Tues 3:00-4:00 PM Wed 3:00-4:30 PM Or by appointment	BRB 103
Phil Higuera	philip.higuera@umontana.edu	By appointment	CHCB 460B
Diana Six	diana.six@umontana.edu	By appointment	BRB 104

Course Schedule

Section	Weeks of the Sem.	Dates
Restoration Theory	Weeks 1-3	8/31-9/13
Forest Restoration	Week 3-6	9/15-10/4
River and Wetland Restoration	Weeks 6-7	10/6-10/13
Human Dimensions of Restoration	Weeks 8-10	10/18-11/3
Grassland Restoration	Weeks 11-14	11/10-11/30
Course Wrap-up	Week 15	12/6-12/8

Evaluation

Student grades will be determined based on scores received for the assessment of each course section (exam or report), pop quizzes and participation in classroom activities, and the field trip reports. The course is scored on a total of 600 points.

Section	Assignment	Due Date	Points
Section 1. Restoration Theory	Exam	9/13	100
Section 2 Forest Restoration	Exam	10/4	100
Section 3 & 4 River Restoration and Human Dimensions	Exam	11/3	100
Section 5 Grassland Restoration	Invasive Species Report	11/30	100
All	Pop Quizzes on reading assignments and classroom activities	Not scheduled	75
All	Seminar Report	12/8	75
One required trip	Field Trip Report (due the Thurs after field trip)	Choice of dates	50
TOTAL			600

NOTE: There is no final exam for this course.

Letter grades will be assigned based on students' numeric scores as follows:

- A = $\geq 94\%$
- A- = 90-93%
- 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 = $<60\%$

Fieldtrips

The course includes at least two field trips, one will be associated with forest restoration (led by Dr. Higuera) and one will be associated with river restoration (led by Dr. Eby). Field trip details and dates will be provided in the first two weeks of the semester. You are required to attend *at least* one of these trips and to submit a field trip report. Details will be provided in a field trip handout.

Reading assignments

The only text book for this course is *Nature's Restoration* by Peter Friederici (Island Press, 2006; available at the bookstore the first week of classes). In addition to the texts, readings will be assigned from the contemporary scientific literature, chapters from books, and popular sources. All reading materials either will be provided in class or will be available through UOnline's *Moodle* Course Supplement service. Please check and be sure you can access Moodle the first week of classes.

Please download all reading materials at the beginning of each course section to ensure that you have access to the documents when you need them.

To assist students with staying current with reading materials, there will be pop quizzes on the reading assignments. We will waive one pop quiz score for each student over the course of the semester.

Reference reading

Students interested in delving more deeply into aspects of restoration can find reference information within The Science and Practice of Ecological Restoration book series, published by Island Press. A list of the books published within this series can be found at: [Books Link](http://www.ser.org/resources/island-press-book-series) (<http://www.ser.org/resources/island-press-book-series>).

Exams

The exams will be conducted in-class and will include: definitions and fill-in-the-blank-style questions (approximately 20-25% of points); short answer questions (approximately 40-45% of points); and a question that requires critical thinking and/or application (approximately 35% of points). Students should review all of the lectures and readings for each section, in addition a study guide reflecting potential questions will be provided to help students focus their studying.

Writing assignments

There is no required term paper for this course. However, there will be four written assignments (not including quizzes and exams). Detailed information on each assignment will be posted on *Moodle*. All assignments must be submitted via *Moodle*.

- Invasive Plant Report – Each student will write a short report on the ecology and management of an invasive plant. This report is the assessment for Grassland Restoration Section of the course (i.e. in lieu of an exam).
- Fieldtrip report – Students will be required to submit a report on one of the Saturday field trips. Please read through the assignment BEFORE the field day, so that you maximize learning while on the trip and are fully prepared to answer the assignment.
- Seminar Report – Students will participate in an in-class discussion of Nature's Restoration. A four-to-six-page seminar paper will be due on the class period of the seminar. Instructions on how to write a seminar paper and participate effectively in a seminar will be posted on Moodle. An example seminar paper will be posted on Moodle. This report is the final assessment for the course.

Format and grading for writing assignments

Please read through all the rules for written assignments to ensure that you fully understand the instructions.

- All assignments must be type written (except for in-class quizzes and in-class exams).
- Assignments will be graded for both substance and writing; approximately 20% of the grade for each writing assignment will be based on grammar and clarity of writing.
- For every written assignment that you submit, include an appropriately formatted header with the title of your paper, the course number, and your student ID number [790*], and the date on the first page and the following information on each additional page: your student ID number, the date, and the page number.
- Students who do not include all of the required header information will be docked one grammar grade (e.g., 3% of total grammar points).
- Use your word processing software's header feature to create the header; do not simply type the header at the top of the page, as it will float to undesired locations. If you do not know how to use this feature, stop by the writing center or ask the course TA for help.
- Please do NOT write your name on any assignments that you turn in, but be certain your correct student identification number is on it.
- In-text citations and bibliographies must follow the "Author-Date". For example, the in-text reference would be: (Jones 2016) if it is a single author, (Jones and Brown 2016) if there are two authors, or (Jones et al. 2016) if there are 3 or more authors.
- Before submitting assignments via Moodle, save your document with the following file naming format: "NRSM265_AssignmentName_StudentID#". For example, the seminar paper should be saved as, "NRSM265_SeminarPaper_790123456"

Assignment due dates and submission

Assignments must be uploaded to Moodle at the beginning of class on the due dates listed on the syllabus. Late assignments will not be accepted without prior arrangement, except in emergency situations (which will be evaluated on a case-by-case basis).

Plagiarism

All students must practice academic honesty, including taking care not to plagiarize the words or ideas of others (i.e. submitting a direct quotation from a source without using quotation marks and citing the original document; or submitting text based on someone else's ideas without proper citation). Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review on line at: [Student Conduct Code](#).

The academic penalty in this course for plagiarism is loss of all credit for the assignment.

Getting active in restoration

Please consider joining UM's student chapter of the international Society for Ecological Restoration. Please check out their facebook page or contact umt.restoration@gmail.com to get added to the chapter's email list or for information about the group. If this is your major, keep your eye on the Ecosystem Science and Restoration weekly newsletter for opportunities.

Communication

All course communications outside of class will be sent to students' University of Montana email accounts. It is your responsibility to regularly check your University account.

Classroom environment

Students at University of Montana are diverse in many ways, including race, gender, age, religion, preparedness, and mobility. Please help create a respectful learning environment by honoring all student contributions and expressing your views in ways that do not diminish other students' perspectives.

Disability modification

Students with disabilities will receive reasonable modifications. It is the student's responsibilities to request modifications from the course Instructor with sufficient advance notice, and to be prepared to provide verification from Disability Services of disability and its impact. Please make an effort to speak to the instructor after class during the first two weeks of the semester to discuss details. For more information, visit the *Disability Services for Students* website at [Disability Services Website](#).

Procedure for dropping the course

The procedures, rules, and timeframes for dropping this (and other fall 2016 courses) are listed below. Note that dropping courses may have implications for financial aid and/or health insurance.

- September 19: This is the last day to add or drop courses on Cyberbear with refund.
- September 20- October 31: During this period, students may drop courses using a Course Drop Form. The course will appear on students' transcripts with a "W" for "withdrawal" instead of a grade. The Drop Form requires signatures from the course instructor and then the faculty advisor. A \$10 fee will be assessed, and there is no refund of tuition or fees.
- November 1 - December 12: During this period, students can only drop courses if they document an unforeseen medical or personal emergency (see Course Drop Form for allowable reasons. The course will appear on students' transcripts with a "WP" for "withdrawal/pass" or "WF" "withdrawal/fail", depending on performance thus far. Students must obtain signatures from the course instructor, then their faculty advisor, and then the Associate Dean. A \$10 fee is assessed and there is no refund of tuition or fees.