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### NRSM 265.01: Elements of Ecological Restoration

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# NRSM 265: Elements of Ecological Restoration

## LOGISTICS

**Time:** Tuesday, Thursday, 12:30 – 1:50 pm

**Location:** Phyllis J. Washington College of Education 312

**Required Field Trip:** Students must attend at least one field trip

**Web Site:** <https://moodle.umt.edu>

## INSTRUCTORS

This course is team taught by faculty within the Environmental Science and Sustainability program. Please stop by their office hours or email them (with “NRSM 265” in the subject line) to ask questions or make an appointment.

**Philip Higuera (*he/him*), Professor**

**Office:** CHCB 460b

**Office Hrs:** Tues & Wed 2:00-3:30 pm

**E-mail:** philip.higuera[at]umontana.edu

**Lisa Eby (*she/her*), Professor**

**Office:** BRB 103

**Office Hrs:** Mon & Wed 1:00-2:00pm or by appointment

**E-mail:** lisa.eby[at]umontana.edu

**Diana Six (*she/her*), Professor**

**Office:** BRB 104

**Office Hrs:** Tues & Thurs 10:00-11:00am or by appointment

**E-mail:** diana.six[at]umontana.edu

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## Course Overview

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 should be able to:

1. Communicate the definition of ecological restoration and its relationship with other disciplines.
2. Describe the scientific principles and management practices used to assist in the repair of forest, grassland, and aquatic systems.
3. Describe some of the human dimensions of restoration.
4. Express ideas in verbal and written formats and follow directions associated with assignments.

## Course Organization

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.

Section	Weeks of the Sem.	Dates
Restoration Theory	Weeks 1-3	8/30 - 9/13
Forest Ecosystem Restoration	Weeks 3-6	9/15 - 10/6
River Restoration and Human Dimensions	Weeks 6-11	10/11 - 11/10
Grassland Restoration, course wrap up	Weeks 11-15	11/15 - 12/8

## Textbook and Readings

The readings have been assigned from the contemporary scientific literature, chapters from books, and chapters from *Nature's Restoration* by Peter Friederici (Island Press, 2006). All reading materials will be available through Moodle.

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](https://islandpress.org/books/science-and-practice-ecological-restoration-series), published by Island Press. (<https://islandpress.org/books/science-and-practice-ecological-restoration-series>)

## Moodle and Computer Access

You need reliable internet access to keep up to date with course materials, to successfully access and hand in assignments, and to access course readings via Moodle. **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.

## Assignments and Assessments

### Reading assignments

Each section and class period has associated reading material that should be read *before* class. 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.

### Quizzes and in-class questions

To assist students with staying current with reading materials, there will be occasional pop quizzes on the reading assignments in class. You will get partial credit for attendance and full credit for the correct answers which indicate that you have read the materials. We will not have make-up quizzes. We realize occasionally students are ill so we will drop two of these scores for each student over the course of the semester. If you have a persistent medical issue please reach out to a professor.

### Exams

Each section will conclude with an exam, which will be conducted in-class and will include: definitions and fill-in-the-blank-style questions (approximately 25% of points); short answer questions (approximately 50% of points); and questions that requires critical thinking and/or application (approximately 25% of points). Students should review all the lectures and readings for each section. In addition, a study guide reflecting potential questions will be provided to help students focus their studying near the end of each section.

### Field trips

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 folder on Moodle. You only need to complete one field trip assignment but you are welcome to attend both field trips.

### **Writing assignments**

There will be written assignments. Detailed information on each assignment will be posted on Moodle. All assignments must be submitted via Moodle.

1. **Field Trip Report:** Each student is required to submit a report from one of the field trips. Please read through the assignment *before* the field trip, so that you maximize learning while on the trip and are fully prepared for to write the field trip report.
2. **Seminar Report:** At the end of the semester, students will write a reflection piece linking class concepts, readings, and case studies. Instructions on how to write this assignment and participate effectively in the seminar discussion will be posted on Moodle and due the last day of regular class.

### **Format and grading for writing assignments:**

- All assignments must be typed (except for in-class work).
- 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. The header on the first page should include the title of your paper, the course number, and your student ID number [790\*], and the date. Each additional page should include: 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.
- 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.
- 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" format. 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 three or more authors. These references are then listed in a bibliography at the end of the paper in APA format.
- 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"

### **Course Grade**

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

Section	Assignment	Points
Section 1: Restoration Theory	Exam	100
Section 2: Forest Restoration	Exam	100
Section 3: River Restoration and Human Dimensions	Exam	100
Section 4: Grassland Restoration	Exam	100

Throughout the course	Class participation, quizzes on reading assignments and classroom activities	75
Throughout the course	Seminar Report	50
Throughout the course	Field Trip Report	75
<b>TOTAL:</b>		<b>600</b>

**\*NOTE: The fourth exam is during finals week but is not cumulative! (it is like a midterm and similar in length). The exam time is Tuesday December 13<sup>th</sup> from 10:10-12:10.**

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%

## COURSE POLICIES

### Class expectations

#### **Cell phones and mini-computers**

Please turn off electronic devices during class, unless they are being used for an in-class exercise. We expect that you will NOT be texting, browsing, or checking e-mail during class. *If you feel you need to engage with your electronic device, please leave the classroom.*

#### **Attendance**

Attendance is expected and contributes to the "Class participation" portion of your course grade. Absences are not excused unless you have extenuating circumstances and have contacted an instructor in advance of the class.

#### **Assignment due dates**

*Due dates are firm.* Late assignments will not be accepted unless you have unusually extenuating circumstances *and* have made arrangements prior to the due date. This includes missing an exam: *there are no make-up exams* without prior arrangement.

We are here to help you succeed. If you have questions or have extenuating circumstances, please reach out to the instructor of the section. We encourage you to do this sooner than you think necessary, as it provides more options. If you have extenuating circumstances (e.g., health, educational conflicts, family, etc.) and contact your instructor at least 48 hours in advance of a due date, we have more options to accommodate student needs.

#### **Communication**

We encourage you to communicate with the instructor and/or the TA if you have questions about course material or assignments. If you have questions about your grade or your standing in the course, please meet with an instructor during office hours. We are happy to help outside of class, but we ask that you follow these guidelines:

Coming to office hours is the best way to get questions answered. E-mail can be a less effective way to communicate for immediate issues. If you do e-mail an instructor, please do the following so that the e-mail is read and understood: (a) include "NRSM 265" in the subject line, (b) write in complete sentences, with proper grammar, and (c) sign the e-mail with your full name. Even though we work to reply promptly, sometimes we are in meetings, classes, and in the field all day and try to catch up on email at night. Reply times will vary and may be up to 48 hours.

## 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 promote stereotypes, hate, or diminish other students' perspectives.

## Disability modification

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and the Office for Disability Equity (ODE). If you anticipate or experience barriers based on disability, please contact the ODE at: (406) 243-2243, [ode@umontana.edu](mailto:ode@umontana.edu), or visit [www.umt.edu/disability](http://www.umt.edu/disability) for more information. Retroactive accommodation requests will not be honored, so please, do not delay. As your instructor, I will work with you and the ODE to implement an effective accommodation, and you are welcome to contact me privately if you wish. Academic honesty, plagiarism, and student conduct

- All students must practice academic honesty. 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 and follow the [Student Conduct Code](#).
- Academic dishonesty of any form is unacceptable and will be taken seriously by the instructor, the Franke College of Forestry and Conservation, and the University of Montana. This includes plagiarism (copying materials from other sources without citing the source or copy someone's work), and cheating (copying material from other students during tests or quizzes). In both cases, you will fail the assignment/exam and the incident will be passed on to the Dean and the Vice Provost of Academic Affairs. It is your responsibility to be familiar with, and adhere to, the University's definition of plagiarism. Specifically, the Student Code of Conduct defines plagiarism as "Representing another person's words, ideas, data, or materials as one's own or the student's own previous work as if it were the student's own original work".

## Course withdrawal deadlines

- See [Fall 2022 Official Dates and Deadlines](#) calendar

Deadline	Description	Date
To 15 <sup>th</sup> instructional day	Students can add/drop classes on CyberBear and switch options.	September 19, before 5 PM
16 <sup>th</sup> to 45 <sup>th</sup> instructional day	A class drop requires a form with instructor and advisor signature, a \$10 fee from registrar's office, student will receive a 'W' on transcript, no refund.	September 20 – October 31 @5 PM

<b>Deadline</b>	<b>Description</b>	<b>Date</b>
Beginning 46 <sup>th</sup> instructional day	<p><u><i>Students are only allowed to drop a class under very limited and unusual circumstances.</i></u> Not doing well in the class, deciding you are concerned about how the class grade might affect your GPA, deciding you did not want to take the class after all, switching majors, and similar reasons are not among those limited and unusual circumstances. If you want to drop the class for these sorts of reasons, make sure you do so by the end of the 45<sup>th</sup> instructional day of the semester. Requests to drop must be signed by the instructor, advisor, and Associate Dean (in that order) so if you pursue this request, <i>leave sufficient time to schedule meetings with each of these individuals</i> (generally this will take at least 3-5 working days). A \$10 fee applies if approved. Instructors must indicate whether the individual is Passing or Failing the class at the time of request.</p>	November 1 – December 9 @5 PM