

**COURSE SYLLABUS**  
**REWM 5800 – Experiments in Restoration**  
**Spring Semester 2012**

**M 3:10 to 5:00 PM**

**Instructor Information:**

**Instructor: Kristina Hufford**

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**Office: Ag 17**

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**Office Hours: M 1:00–3:00 PM or by appointment**

**Prerequisites:**

STAT 2050 (or equivalent), LIFE 3400 (or equivalent), and graduate status

**Course Description:**

*Experiments in Restoration* is a graduate-level course for students with interests in rangeland ecology, botany, and animal science/zoology. Ecological restoration has long been promoted as an "acid test" for ecology. This course will examine the current status of restoration science and the application of ecological theory in restoration ecology. Namely, how have restoration ecologists incorporated ecological theory in research? Emphasis on concepts of population genetics, metapopulation biology and ecosystem science, food webs, biodiversity and invasion, conceptual models, experimental design and climate change. The course is designed as a readings course, where we will discuss relevant literature to broaden and refine our perspectives on concepts and current issues in restoration ecology. Students will be expected to prepare and present topical discussions to other class members. Requirements will include the preparation of literature summaries and prospective grant proposals based on course topics of interest to the student.

**Objectives/Outcomes/Standards:**

**Course Objectives**

1. To examine the principles of restoration ecology and the current status of the science,
2. To become familiar with ecological and evolutionary theory and its application in restoration, and
3. To encourage an interest in including principles of ecology in restoration research or, alternatively, to expand ecological studies to include restoration sites.

**Student Responsibilities**

1. Participate fully in all class discussions
2. Read assigned material before class and prepare insightful presentations
3. Complete writing assignments in a timely manner

**Classroom Policies**

1. Students are expected to: be on time, read literature before class, and participate in discussions

2. Academic honesty and integrity are University Policies. Failure to maintain these standards may result in a failing grade and/or referral to the Dean of students
3. Derogatory language or behavior based on race, gender, religion, political affiliation, sexual orientation, or physical or mental abilities is not appropriate for class

### **Text(s) and Readings:**

#### ***Required Textbook***

Falk, D. A., M. A. Palmer, and J. B. Zedler. 2006. *Foundations of Restoration Ecology*. Island Press, Washington, D.C., USA.

#### ***Additional Readings***

Supplemental readings consisting of journal articles, book chapters, and other sources will be identified by students and collectively analyzed by the class as the semester progresses.

### **Course Requirements/Assignments:**

#### ***Grading Standards***

Grades will be assigned on the basis of percentage of total points earned.

- A = >90%
- B = 80–89%
- C = 70–79%
- D = 60–69%
- F = <59 %

#### ***Assignments***

<b>Assignment</b>	<b>Number</b>	<b>Point Value</b>	<b>Total Points</b>
Two-page literature summaries	2	50	100
50-minute class discussions	2	75	150
Mid-term exam (take home)	1	100	100
Four-page term papers (grant proposals)	2	75	150
Participation (semester)	--	50	50
<b>Total</b>			<b>550</b>

#### ***Late Assignments***

Because we will be depending on each other to provide weekly literature summaries and presentations there is no policy on late assignments. However, I will make accommodations for valid emergencies.

#### **Attendance/Participation Policy:**

1. Absences result in poor performance on assignments, so please attend each class

2. University sponsored absences are cleared through the Office of Student Life
3. Other absences must be cleared through me

### Academic Honesty:

The University of Wyoming is built upon a strong foundation of integrity, respect and trust. All members of the university community have a responsibility to be honest and the right to expect honesty from others. Any form of academic dishonesty is unacceptable to our community and will not be tolerated [from the UW General Bulletin]. Teachers and students should report suspected violations of standards of academic honesty to the instructor, department head, or dean. Other University regulations can be found at: <http://uwadmnweb.uwyo.edu/legal/universityregulations.htm> )

### Disability Statement:

*If you have a physical, learning, or psychological disability and require accommodations, please let me know as soon as possible. You must register with, and provide documentation of your disability to University Disability Support Services (UDSS) in SEO, room 330 Knight Hall.*

### Course Outline:

Preliminary Schedule		
Week	Topic	Assignment*
1 (Jan 9)	Introductions and assignments	Preface, Chapter 1
2 (Jan 17)	Martin Luther King Jr./Wyoming Equality Day - <b>No Class</b>	
3 (Jan 23)	Ecological Theory and Restoration Ecology: 'Restoration: an acid test for ecology'	
4 (Jan 30)	Population Genetics & Evolutionary Restoration Ecology	Chapters 2, 6
5 (Feb 6)	Ecophysiological Constraints in Restoration	Chapter 3
6 (Feb 13)	Metapopulation Theory and Applications	Chapter 4
7 (Feb 20)	Restoring Ecological Communities	Chapters 5,7
8 (Feb 27)	Top-down, Bottom up Aspects of Restoration	Chapter 8
9 (Mar 5)	Review	<b>Midterm Exam</b>
10 (Mar 12)	<b>Spring Break – No Class</b>	
11 (Mar 19)	Restoration Trajectories vs. Endpoints	Chapter 9
12 (Mar 26)	Restoring Biodiversity	Chapter 10
13 (Apr 2)	Conceptual Models and Restoration	Chapter 11
14 (Apr 9)	Invasive Species Management and Restoration	Chapter 12
15 (Apr 16)	Statistical Issues and Experimental Design	Chapter 13
16 (Apr 23)	Climate Change and Assisted Migration	Chapters 14,15
17 (Apr 30)	<b>Final discussion and course synopsis</b>	

\*General reading assignments from Falk et al. (2006). Other readings will be identified by students as part of our collective analysis of current restoration ecology literature.

**The instructor may make changes to the syllabus as the course proceeds. If necessary, these changes will be announced in class. Substantive changes made to the syllabus shall be communicated in writing to the students.**