

COURSE SYLLABUS

Rangeland Vegetation Management Techniques (REWM 4850)

Spring Semester 2017

TR 9:35–10:50 AM – AG 2018

Instructor Information:

Instructor: Jeffrey L. Beck

Phone: (307)-766-6683

Office: Ag 2005

E-mail: jlbeck@uwyo.edu

Office Hours: W 10:00 AM–2:00 PM and TH 11:00 AM–1:00 PM (or by appointment)

Graduate Teaching Assistant: Matt King (MS student in Soil Science)

Office: AG 1015

E-mail: mking27@uwyo.edu

Office Hours: Friday 11:00 AM–1:00 PM

Prerequisites:

REWM 2000 – C or better in Principles of Rangeland Management (REWM 2000) and a SB course.

Course Description:

Rangeland Vegetation Management Techniques is a required course for undergraduate students majoring in Rangeland Ecology and Watershed Management and is very applicable for students majoring in other agricultural and ecological disciplines. The official course description is “Uses applied ecological principles in restoration of degraded ecosystems to introduce methods for manipulating rangeland vegetation that satisfy land management objectives. Provides ecologically-sound practices to maintain optimal and sustained yield of rangeland products.” One goal of the course will be to introduce students to guest lecturers, who will present case studies, descriptions, and viewpoints on management and research applications aligned with topical material covered in the course.

Disability Statement:

If you have a physical, learning, sensory or psychological disability and require accommodations, please let me know as soon as possible. You will need to register with, and provide documentation of your disability to University Disability Support Services (UDSS) in SEO, room 109 Knight Hall.

Objectives/Outcomes/Standards:***Course Objectives***

1. To gain an understanding of the central concepts applied to rangeland vegetation management
2. To become familiar with applications of rangeland vegetation management techniques
3. To encourage further learning about rangeland vegetation management techniques

Student Responsibilities

1. Participate fully in all class discussions and ask questions of guest lecturers
2. Read assigned material before class
3. Turn in problem sets on the respective due dates
4. Be prepared for exams and quizzes

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*** (PDF is posted on course website)

Monsen, S. B., R. Stevens, and N. L. Shaw, compilers. 2004. Restoring western ranges and wildlands. General Technical Report RMRS-GTR-136-vol-1. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fort Collins, Colorado. Pages 1–294 plus index.

Additional Readings

To enhance your educational experience, I will provide relevant readings as PDFs on the REWM 4850 WyoWeb course site or hand them out in class. You will be responsible for these readings and will be quizzed and tested accordingly.

Additional References (PDFs of Monsen et al. [2004] volumes 2 and 3 are also posted on course website)

Bainbridge, D. A. 2007. A guide for desert and dryland restoration. Society for Restoration Ecology International. Island Press, Washington D.C., USA.

Heady, H. F., and R. D. Child. 1999. Rangeland ecology and management. Westview Press, Boulder, Colorado, USA.

Monsen, S. B., R. Stevens, and N. L. Shaw, compilers. 2004. Restoring western ranges and wildlands. General Technical Report RMRS-GTR-136-vol-2. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fort Collins, Colorado. Pages 295–698 plus index.

Monsen, S. B., R. Stevens, and N. L. Shaw, compilers. 2004. Restoring western ranges and wildlands. General Technical Report RMRS-GTR-136-vol-3. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fort Collins, Colorado. Pages 699–884 plus appendices and index.

Vallentine, J.F. 1989. Range Development and Improvements. Third Edition. Academic Press, San Diego, California, USA.

Whisenant, S. G. 1999. Repairing damaged wildlands: a process-orientated, landscape-scale approach. Cambridge University Press, Cambridge, England.

Course Requirements/Assignments:

Total points for the class are 500. Grades will be based on 3 exams (100 points each = 300 points total), 10 in-class quizzes (10 points each distributed throughout the semester = 100 points total), 4 take-home problem sets (20 points each = 80 points total), and attendance at 4 guest lectures (5 points each = 20 points total). I typically provide extra credit points on quizzes and exams and may do so for some extra guest lectures.

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 (note: Spring 2017 mid-term grades due by noon on Wednesday, March 22)

Assignment	Number	Point Value	Total Points
Quizzes	10	10	100
Problem sets	4	15 (1) or 20 (3)	75
Attendance at guest lectures*	5	5	25
Exam 1	1	100	100
Exam 2	1	100	100
Exam 3	1	100	100
Total			500

**You will earn 5 points for attending each of the 5 guest lectures listed under tentative speakers. I may provide extra credit points for attendance at lectures provided by other potential speakers. Be prepared to find questions on quizzes and exams from each speaker (regardless if points are given for attendance).*

Late Assignments

Problem sets are due at the beginning of class on assigned due dates. Assignments will lose a half letter grade if submitted later that day, and will not be accepted more than 1 day past the due date. However, I will make accommodations for valid emergencies.

Attendance/Participation Policy:

1. Absences result in poor performance on assignments and exams, 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 http://www.uwyo.edu/registrar/university_catalog/honor.html]. 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://www.uwyo.edu/generalcounsel/new-regulatory-structure/index.html>)

Guest Speaker Tentative Schedule:

Date	Speaker	Affiliation	Topic
Feb 14 or 16	Jay D'Ewart	BLM-Rock Springs Field Office	Wild horse management
Mar 9	Dr. Derek Scasta	UW – ESM	Prescribed burning
Mar 21	Jason LeVan (MS student)	UW - ESM	Vegetation treatments in sage-grouse habitat
Apr 20	Daryle Bennett	Granite Seed	Rangeland seeding and seed mixes
Apr 27	Dr. Tim Collier	UW – ESM	Insect biocontrol

Course Outline:

Tentative Schedule (January 2017)		
Week	Topic	Assignment*
1 (Jan 24 and 26)	Rangeland manipulation philosophy	Chapters 1, 2, 4, 5
2 (Jan 31 and Feb 2)	SRM Meeting – No Class	
3 (Feb 7 and 9)	Herbivory	Readings; Prob Set 1^a
4 (Feb 14† and 16)	Herbivory	Readings
5 (Feb 21 and 23)	Fire ecology and prescribed burning	Exam 1,
6 (Feb 28 and Mar 2)	Prescribed burning	Chapter 11; Prob Set 2^a
7 (Mar 7 and 9‡)	Rangeland herbicide applications	Chapter 10; Prob Set 3^a
8 (Mar 14 and 16)	Spring Break – No Class	
9 (Mar 21‡ and 23)	Mechanical treatments	Chapter 9
10 (Mar 28 and 30)	Mechanical treatments	Chapter 9
11 (Apr 4 and 6)	Soil and water conservation	Exam 2; Ch 6 and 7
12 (Apr 11 and 13)	Seedbed preparation and seeding practices	Ch 12 ; Prob Set 4^a
13 (Apr 18 and 20‡)	Seedbed practices and managing revegetated sites	Ch 16 ^b , 17 ^b
14 (Apr 25 and 27‡)	Biological control	Readings
15 (May 2 and 4)	Noxious plant management/control and Riparian issues	Ch 8; Readings; Exam 3
16 (May 9)	Final – Tuesday, May 9 (10:15 AM–12:15 PM)	If necessary (Exam 3)

*Chapter refers to Monsen et al. (2004), volume 1. Additional readings will be assigned.

†Guest speaker (see schedule).

‡Teaching assistant lecture.

^aDates that problem sets are tentatively assigned. Due dates will be provided in the assignments.

^bAs time allows.