

**COURSE SYLLABUS (Tentative February 6, 2023)**

**Rangeland Vegetation Management Techniques (REWM 4850)**

**Spring Semester 2023**

**T and Th from 9:35 to 10:50 AM – AG 2024**

**Instructor Information:**

**Instructor:** Jeffrey L. Beck

**Phone:** (307) 766-6683

**Office:** Ag 2004

**E-mail:** [jlbeck@uwyo.edu](mailto:jlbeck@uwyo.edu)

**Office Hours:** T and TH 11:00 AM–1:00 PM (or appointment or Zoom)

**Graduate Teaching Assistant:** Jeff Wagner

**Office:** Ag 2028

**E-mail:** [Jeff.Wagner@uwyo.edu](mailto:Jeff.Wagner@uwyo.edu)

**Office Hours:** W 12:00–2:00 PM

**Substantive changes to syllabus:**

*Note: This syllabus is a guide. All deadlines, requirements, and course structure are subject to change if deemed necessary by the instructor. Circumstances may alter the reading, assignments, or test schedules. I will verbalize changes in class, but you are required to check WyoCourses and your email at least once a week.*

**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.

**Attendance and Absence policies:**

1. Absences result in poor performance on assignments and exams, so please attend each class (**It is your responsibility to follow the class due to absences**)
2. University sponsored absences are cleared through the Office of Student Life

3. Other absences must be cleared through me
4. Please consult with University policies on excused absences as outlined in [UW Regulation 2-108 \(Student Attendance Policy\)](#).

### Classroom Behavior Policy:

*At all times, treat your presence in the classroom and your enrollment in this course as you would a job. Act professionally, arrive on time, pay attention, complete your work in a timely and professional manner, and treat all deadlines seriously. You will be respectful towards your classmates and instructor. Spirited debate and disagreement are to be expected in any classroom and all views will be heard fully, but at all times we will behave civilly and with respect towards one another. Personal attacks, offensive language, name-calling, and dismissive gestures are not warranted in a learning atmosphere. As the instructor, I have the right to dismiss you from the classroom (including from Zoom participation if we use that technology), study sessions, electronic forums, and other areas where disruptive behavior occurs.*

*Electronic devices such as mobile phones should be turned off during class. Laptops and tablets are allowed for note-taking purposes unless they become a source of disturbance. No video or audio recording during class is allowed to protect the privacy of your fellow students.*

### Classroom Statement on Diversity:

*The University of Wyoming values an educational environment that is diverse, equitable, and inclusive. The diversity that students and faculty bring to class, including age, country of origin, culture, disability, economic class, ethnicity, gender identity, immigration status, linguistic, political affiliation, race, religion, sexual orientation, veteran status, worldview, and other social and cultural diversity is valued, respected, and considered a resource for learning.*

### Disability Support:

*The University of Wyoming is committed to providing equitable access to learning opportunities for all students. If you have a disability, including but not limited to physical, learning, sensory or psychological disabilities, and would like to request accommodations in this course due to your disability, please register with and provide documentation of your disability as soon as possible to Disability Support Services (DSS), Room 128 Knight Hall. You may also contact DSS at (307) 766-3073 or [udss@uwyo.edu](mailto:udss@uwyo.edu). It is in the student's best interest to request accommodations within the first week of classes, understanding that accommodations are not retroactive. Visit the DSS website for more information at: [www.uwyo.edu/udss](http://www.uwyo.edu/udss)*

### Academic Dishonesty Policies:

*Academic dishonesty will not be tolerated in this class. Cases of academic dishonesty will be treated in accordance with UW Regulation 2-114. The penalties for academic dishonesty can include, at my discretion, an "F" on an exam, an "F" on the class component exercise, and/or an "F" in the entire course. Academic dishonesty means anything that represents someone else's ideas as your own without attribution. It is intellectual theft – stealing - and includes (but is not limited to) unapproved assistance on examinations, plagiarism (use of any amount of another person's writings, blog posts, publications, and other materials without attributing that material to that person with citations), or fabrication of referenced information. Facilitation of another person's academic dishonesty is also considered academic dishonesty and will be treated identically.*

### Duty to Report:

*UW faculty are committed to supporting students and upholding the University's non-discrimination policy. Under Title IX, discrimination based upon sex and gender is prohibited. If you experience an incident of sex- or gender-based*

*discrimination, we encourage you to report it. While you may talk to a faculty member, understand that as a "Responsible Employee" of the University, the faculty member MUST report information you share about the incident to the university's Title IX Coordinator (you may choose whether you or anyone involved is identified by name). If you would like to speak with someone who may be able to afford you privacy or confidentiality, there are people who can meet with you. Faculty can help direct you or you may find info about UW policy and resources at <http://www.uwyo.edu/reportit> You do not have to go through the experience alone. Assistance and resources are available, and you are not required to make a formal complaint or participate in an investigation to access them.*

### Student Resources:

#### **CAMPUS RESOURCES**

DISABILITY SUPPORT SERVICES: [udss@uwyo.edu](mailto:udss@uwyo.edu), 766-3073, 128 Knight Hall, [www.uwyo.edu/udss](http://www.uwyo.edu/udss)

COUNSELING CENTER: [uccstaff@uwyo.edu](mailto:uccstaff@uwyo.edu), 766-2187, 766-8989 (After hours), 341 Knight Hall, [www.uwyo.edu/ucc](http://www.uwyo.edu/ucc)

ACADEMIC AFFAIRS: 766-4286, 312 Old Main, [www.uwyo.edu/acadaffairs](http://www.uwyo.edu/acadaffairs)

DEAN OF STUDENTS OFFICE: [dos@uwyo.edu](mailto:dos@uwyo.edu), 766-3296, 128 Knight Hall, [www.uwyo.edu/dos](http://www.uwyo.edu/dos)

UW POLICE DEPARTMENT: [uwpd@uwyo.edu](mailto:uwpd@uwyo.edu), 766-5179, 1426 E Flint St, [www.uwyo.edu/uwpd](http://www.uwyo.edu/uwpd)

STUDENT CODE OF CONDUCT WEBSITE: [www.uwyo.edu/dos/conduct](http://www.uwyo.edu/dos/conduct)

### 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

### 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 are based on 3 exams (100 points each = 300 points total), 10 in-class quizzes (10 points each and distributed throughout the semester = 100 points total), 4 take-home problem sets (15 or 20 points each = 75 points total), attendance at 4 guest lectures (5 points each = 20 points total), and 1 intro slide (5 points). I typically provide extra credit points on quizzes and exams.

### 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 2023 mid-term grades due by noon on March XX)

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

*\*You will earn 5 points for attending each of the 4 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.

### Guest Speaker Tentative Schedule:

Date	Speaker	Affiliation	Topic
Feb 2	Courtney Buchanan	PhD candidate – UW ESM	BLM Wild Horse and Burro Program
Feb 21	Tim Downham	U.S. Forest Service – Fuels Assistant Fire Management Officer, Laramie Ranger District	Prescribed burning
Apr 4	Daryle Bennett	Granite Seed	Rangeland seeding and seed mixes
Apr 25	John Connett	UW – ESM	Insect biocontrol

## Course Outline:

Tentative Schedule		
Week	Topic	Assignment <sup>*,**</sup>
1 (Jan 17 and 19)	Course Introduction	Introduction slide
2 (Jan 24 and 26)	Rangeland manipulation philosophy	Chapters 1, 2, 4, 5
3 (Jan 31 and Feb 2 <sup>†</sup> )	Herbivory	Readings;
4 (Feb 7 and 9)	Herbivory	PS 1 <sup>a</sup>
<b>5 (Feb 14 and 16)</b>	<b>76th Annual SRM Meeting, Boise, Idaho – No Class</b>	Readings
6 (Feb 21 <sup>†</sup> and 23)	Fire ecology and prescribed burning	<b>Exam 1</b>
7 (Feb 28 and Mar 2)	Prescribed burning	Chapter 11; PS 2 <sup>a</sup>
8 (Mar 7 and 9)	Rangeland herbicide applications	Chapter 10
<b>9 (Mar 14 and 16)</b>	<b>Spring Break – No Class</b>	
10 (Mar 21 and 23)	Mechanical treatments	PS 3 <sup>a</sup> ; Chapter 9
<b>11 (Mar 28 and 30)</b>	<b>Wyoming TWS Meeting and GRSB Modeling – No Class</b>	
12 (Apr 4 <sup>†</sup> and 6)	Soil and water conservation	Ch 6 and 7; <b>Exam 2</b>
13 (Apr 11 and 13)	Seeding practices and managing restored sites	Ch 16 <sup>b</sup> , 17 <sup>b</sup>
14 (Apr 18 and 20)	Biological control	Readings; PS 4 <sup>a</sup>
15 (Apr 25 <sup>†</sup> and 27)	Noxious plant management/control	Chapter 8
16 (May 2 and 4)	Riparian management	Readings
<b>17 (May 8–12)</b>	<b>Exam 3 – Tuesday, May 9 (10:15 AM–12:15 PM)</b>	<b>Exam 3 (May 9)</b>

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

\*\*Dates for quizzes will be announced in class.

<sup>†</sup>Guest speaker (see schedule).

<sup>a</sup>Dates for Problem Sets (PS) are tentatively assigned. Due dates will be provided in the assignments.

<sup>b</sup>As time allows.