NRSM 360 RANGELAND MANAGEMENT

MW 9:00 – 9:50 360-00 (FOR 106)

M 2:00-4:50 LAB 360-01 (FOR 301)

W 2:00-4:50 LAB 360-02 (FOR 106)

Text: Range Management: Principles and Practices (6th ed.) by J.L. Holecheck, R.D. Pieper, and C.H. Herbel

Instructor: Walter Lujan, Adjunct
Office: CHCB 420 (Clapp Building); Phone 243-5529 (walter.lujan@mso.umt.edu) or (walter.lujan@usda.gov) Office Hours: 10:00 – 12:30 MW; (other times by appointment or if door is open please feel free to talk with me). Easiest way to contact me is by email.
Jacob Powell, Teaching Assistant (TA), CHCB 443, Office Hours 2:00PM – 4:30PM Thursdays

Course Description: This course is an introduction to rangeland ecosystems and range management and science. Range management is an integrative management science involving plant physiology, animal science, ecology, soil science, hydrology, economics, and other disciplines. Students learn about social values in regards to rangeland ecosystems, historical and policy aspects, different rangeland types and ecosystem function, interaction of plant physiology with grazing response of plants and communities, issues and concerns regarding vegetation and ungulate management, and introduction to livestock and animal nutrition principles.

Lectures: Lecture topics will be determined up to one week prior class. The lectures will generally follow the text. Chapters should be read before the lectures. Reading assignments and chapters are on ERES. Material for lecture tests will come from the text, lectures, and occasionally from outside readings.

Laboratory: There will be a lab on Monday and Wednesday afternoon. Labs will meet every other week. Most labs are scheduled to take place outdoors (weather permitting). On occasion, lecture material will be presented in the lab. During outdoor labs we will return to campus by approximately 5:30pm. However, in cases where longer driving times are needed to get to sites, return time to campus maybe after 6:00pm (make arrangements for these longer labs). All students are expected to attend field labs. Your final lab grade will be reduced for each unexcused absence of a field lab. Lab quizzes will be incorporated into your final grade.

Learning Outcomes: As a background course covering a broad range of subjects the main learning outcome is to provide the student with an overview of rangelands and range management to provide the student with the ability to work with rangeland managers within their discipline. The student will have the ability to:

- Describe rangelands, including their products and values, including multiple use principles.
- Understand basic principles of how physical aspects and management may impact values and products of rangelands.
- Determine rangeland community characteristics using basic plant ecology methods.
- Describe and communicate how grazing as a process may impact rangelands.
- Describe past methods and current understanding of theories in plant succession and state and transition models in determining rangeland conditions.
- Develop general methods to determine initial stocking levels of livestock on various rangelands.
- Describe rangeland livestock production systems and economics and issues in regards to ranching in the western U.S.
- Identify important rangeland plants found in Montana.

Grading System (plus/minus system will be used): **Grading will be on a scale of: 90-100% = A; 80-89% = B; 70-79% = C; 60-69% = D; less than 60% = F**

Exams:	75% (Lecture Exams and Quizzes)
Laboratory/group project:	25% (35% quizzes, 40% group project and 25% attendance/homework assignments).

Group project: As rangeland management is an inherently collaborative process, you will gain experience working with others to synthesize and provide an assessment and recommendations on one of following contemporary rangeland challenges: sage grouse, cheatgrass or spotted knapweed invasion, elk, elk and livestock co-use, multiple land ownership, or climate change within rangeland ecosystems. Components of the project will include: goals and objectives, resources concerns, assessments, alternatives/recommendations, stakeholder analysis, a report, and an oral presentation. Individual participation will be evaluated and will affect your overall participation grade.

Honesty, respect, and other things Students and instructors are expected to be honest in all course activities, including exams and assignments. Disrespectful actions, behavior, conversations, and language will not be tolerated. Please read, understand, and adhere to the student conduct code. Students needing special assistance will need to contact me during the first week of class. Additionally, 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 the Student Conduct Code. The Code is available for review online at UM Student Conduct Code.