

## RANGE RESOURCES

NRM 2301

Spring 2017

### ***Instructor:***

Dr. Robert Kinucan

Room 101, Turner RAS Center

Phone: 432-837-8201

Office hours: M-F, 11:00 – 12:00, 1:30 – 3:00 & by arrangement

### ***Expected Learning Outcomes:***

This course is an introduction to the principles of rangeland resource management. The class includes a survey of the history, resources, policies, grazing regions, grazing systems, management, improvement, ecology, ecosystem elements, plant physiology and evaluation of rangeland ecosystems. By the completion of this course you should be able to demonstrate an applied knowledge in the following areas: 1) an historically-based knowledge of physical and biological characteristics of world rangelands, 2) a practical knowledge of physiological, anatomical, and ecological functions and requirements of rangeland plants and foraging animals, 3) a knowledge of ecosystem elements, and 4) a knowledge of the fundamental concepts of rangeland resource management, including vegetation inventories and monitoring, vegetation manipulation, and livestock grazing management strategies. Students completing the course will recognize rangeland ecosystems and their proper use and management as demonstrated through the successful completion of course exams and critical reflection. The Department of Natural Resource Management Program Student Learning Outcome (SLO) 2 (demonstrate knowledge of the elements of an ecosystem) is addressed in this course.

***TEA AFNR Educator Standards*** – Standard VIII. The AFNR teacher understands and applies knowledge of environmental systems, natural resource management, and the effects of agriculture, energy, and food processing on the environment.

### ***Lecture:***

Room 130, RAS; MWF, 9:00 – 9:50 a.m.

### ***Textbook:***

Holecheck, J. L., R. D. Pieper and C. H. Herbel. 2011. Range Management: Principles and Practices. Sixth edition. Prentice-Hall, Inc., Upper Saddle River, New Jersey.

### ***Grades:***

Lecture: 3 one-hour exams @ 100 points ea	300 points
Class participation	50 points
Reflections on plant succession	50 points
Optional, comprehensive final	(100 points)*

### **Total**

**400 points**

*\*If you choose to take the optional final, your point total for the course will equal 500.*

Several extra credit opportunities, by attending seminars and events, may be available during the semester at the discretion of the instructor.

Grade assignment: 90-100 = A; 80-89 = B; 70-79 = C; 60-69 = D; < 60 = F.

All grades will be posted in Blackboard when they become available.

***Tentative Exam Schedule and assignment deadline:***

Exam 1 – Monday, February 20

Exam 2 – Friday, March 31

Reflection – Monday, April 24

Exam 3 – Wednesday, May 3

Optional, Comprehensive Final – Tuesday, May 9, 8:00 a.m. – 10:00 a.m.

***Class Organization:***

- 1) Class notes, web links, outside readings and assignments, and student grades are available in Blackboard through the SRSU website. On some occasions, class assignments may be given in Blackboard in lieu of meeting in the classroom.
- 2) Most exam material will come from class discussion and lecture notes. Reading the text book and outside sources may be needed to successfully answer all exam questions.
- 3) Email correspondence will take place through your official SRSU email address.
- 4) Attendance and class participation are important factors for you to achieve the grade you desire. Excessive absences during the semester may result in a grade of F. (See attendance policy in the university catalog).
- 5) Cheating on any exam or assignment will result in an F for that material and possible expulsion from the class with a grade of F.
- 6) Missed Exam Policy: There will be no make-up exams for an unexcused missed exam, i.e., if you miss an exam without an authorized absence, you will receive a score of 0 for that exam. For missed exams that are authorized, there will be a single, comprehensive, make-up exam scheduled at the end of the semester (you will be required to take the comprehensive final to replace the missing exam grade).
- 7) If you find it necessary to miss a class for any reason, be sure to contact me ***BEFOREHAND***, if at all possible.
- 8) If you miss a lecture, for whatever reason, you are responsible for that material and you will want to obtain *notes and assignments* from Blackboard or a classmate.
- 9) Read the syllabus! It contains information you will need about how the class is conducted, including the test schedule. If you have additional questions, be sure to ask!
- 10) Accessibility Services Guidelines and Procedures can be reviewed on the SRSU website under student services.

**TOPICAL OUTLINE (2015)**

I. Course Overview (Blackboard Unit 1)

II. Rangelands and Range Management: Chapters 1 and 2 (Blackboard Unit 2)

- a. Definitions of range science terms and concepts (days 1-3)
- b. Land Policies and historical development important in range science (days 4-6)

III. Rangelands in Perspective: Chapters 3 and 4 (Blackboard Units 3 & 4)

- a. Physical features of rangelands (days 7-11)
- b. Rangeland ecosystems - grazing regions of the world, United States and Texas (days 12-14)

Exam 1: February 20

IV. Range Plant Development: Chapter 5 (Blackboard Units 5 & 6)

- a. Morphology (days 15-17)
- b. Physiology (days 18-19)
- c. Reproduction (days 20-21)

V. Rangeland Ecology: Chapter 6 (Blackboard Unit 7),

- a. Ecosystem components and functions (days 22-24)
- b. Succession and climax (days 25-27)  
Experiential Learning (day 26), outdoor learning exercise at university ranch
- c. Stability and competition (day 28)

Exam 2: March 31

VI. Range Condition and Trend Concepts: Chapter 7 (Blackboard Units 8 & 9) (day 29)

- a. Classic approaches (day 30)
- b. Contemporary approaches (days 31-32)

Experiential Learning – Ecological succession, reflections: April 15

VII. Range Inventory and Monitoring concepts and methods: Chapter 7 (Blackboard Units 8 & 9) (days 33-35)

VIII. Range Livestock Nutrition: Chapter 11 (Blackboard Unit 10) (days 36-38)

IX. Grazing Management: Chapters 8, 9, 10, 12 and 13 (Blackboard Units 11 & 12) (days 39-43)

- a. Utilization, stocking rates, distribution, kinds & classes of stock
- b. Grazing systems

X. Manipulation of Rangeland Vegetation: Chapter 15 (Blackboard Unit 13) (day 44)

Exam 3: May 3

Optional Comprehensive Final: May 9 (8:00 a.m.)