

**Sul Ross State University**  
**NRM 4303 and 5303**  
**Rangeland Ecology**  
**Spring 2017**

**Instructor:** Dr. Whitney J. Gann  
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**Office:** RAS 139  
**Office Hours:** TR 11:00am–12:30pm or by appointment

**Book:** Smith, R. L., and T. M. Smith. 2001. Ecology & Field Biology. 6<sup>th</sup> edition.

**Course Meeting Time:** TR 12:30pm–1:45pm in RAS 128

**Catalog Description:** Study of rangeland communities and community classification, plant identification, sampling methods, resource planning, autecology and synecology of rangelands, study of plant succession and climax in relation to management, grazing, and ecological condition.

**Learning Objectives:** (1) students will learn to define rangeland communities and classify land areas into a specific community type, (2) students will develop an understanding of the biotic and abiotic environment in an ecosystem and how they function within the ecosystem, (3) students will apply this knowledge in the creation of a land management plan.

<b>Grading:</b>	Ranch Management Plan	100 points
	Literature review	50 points
	Mid-Term Exam	100 points
	Critical thinking/planning assignments	50 points
	Final Presentations	100 points
	Final Exam	<u>100 Points</u>
		500 Points = 100%

**Scale:** 90-100% = A  
80-89% = B  
70-79% = C  
60-69% = D  
<60% = F

**Class Organization:**

1. The SRSU catalog states “the instructor may, at their discretion, drop a student from a course when the student has a total of 9 absences. An absence is defined as non-attendance in 50 minutes of class. Non-attendance in a 1.5 hour class will constitute one and one-half absences.” Come To Class! Attendance and class participation will be considered when assigning a final grade.
2. You are expected to do your own work on homework assignments and exams. If you are caught cheating both parties will receive an **F** for that material and expulsion will be sought with a final grade of **F**.
3. It is the responsibility of the student to notify the instructor prior to an excused absence. No make-up exams will be given for unexcused absences. If you miss an exam with an

unexcused absence, you will receive a score of 0 for that exam. Make-up exams will be available for authorized absences and must be completed within one week of the original exam date. Medical or illness-related absences must be documented with a doctor's office note.

4. If you miss a lecture, you may obtain notes from a willing classmate. Handouts or assignments may be obtained from your instructor or from Blackboard.
5. It is Sul Ross State University Policy to provide reasonable accommodation to students with disabilities. If you would like to request such accommodations because of physical, mental, or learning disability, please contact the ADA Coordinator for Program Accessibility in FH Room 211 or call 432-837-8203.
6. The ranch management plan will be due on Tuesday, April 25. Final Presentations will take place Tuesday, April, 25; Thursday, April 27; and Tuesday, May 2. Undergraduate students will work in teams to develop a multi-part ranch management plan and literature review.

Tentative Course Outline:

Lecture Week	Topic
Tues Jan 17–Thurs Jan 19	Intro to course, Definition & Hist of Ecology; Discuss Ranch Mgmt. Plan
Tues Jan 24–Thurs Jan 26	Solar radiation and climate; Light, temperature, energy
Tues Jan 31–Thurs Feb 2	Soils; Hydrologic Cycling
Tues Feb 7–Thurs Feb 9	Manipulation of Rangeland Vegetation
Tues Feb 14–Thurs Feb 16	Literature Review Due; Herbivory; Livestock Behavior
Tues Feb 21–Thurs Feb 23	Species adaptations to the abiotic environment
Tues Feb 28–Thurs Mar 2	Tuesday: Flex-day; Thursday: Mid-term exam
Tues Mar 7–Thurs Mar 9	Morphology and physiology of grasses
Tues Mar 14–Thurs Mar 16	<i>Spring Break</i>
Tues Mar 21–Thurs Mar 23	Rangeland Ecosystem Function: Succession
Tues Apr 4–Thurs Apr 6	Rangeland Inventory and Monitoring
Tues Apr 11–Thurs Apr 13	Management for Multiple use
Tues Apr 18–Thurs Apr 20	Rangeland Types
Tues Apr 25–Thurs Apr 27	Ranch Plans Due; Class presentations
Tues May 2	Class Presentations Continued
Wednesday, May 10	Final Exam: 10:15am–12:15pm

Program learning Outcomes

The ranch management plan in the lecture is designed to meet B.S. and PLO3 and PLO5.

Program Learning Outcomes for the B.S. in Natural Resource Management

The graduating student will demonstrate that he/she is able to:

1. Identify species of wildland plants and wildlife common to the western United States and describe their natural history.
2. Demonstrate knowledge of the elements of an ecosystem.
3. Communicate about natural resources and conservation both verbally and in writing.
4. Conduct range and wildlife inventories in a team setting.

5. Apply knowledge about elements of an ecosystem into an appropriate conservation management plan.

#### Program Learning Outcomes for the M.Agr. in Range and Wildlife Management

The graduating student will demonstrate that he/she is able to:

1. Apply statistical concepts and procedures to natural resource data
2. Evaluate literature and references to substantiate the applied research project
3. Examine, select, and utilize appropriate resources, materials, and data collection instruments to implement research project.
4. Justify and defend research questions and design.

#### Program Learning Outcomes for the M.S. in Range and Wildlife Management

The graduating student will demonstrate that he/she is able to:

1. Apply statistical concepts and procedures to natural resource data
2. Evaluate literature and references as they apply to the natural resource field.
3. Demonstrate their knowledge of the fundamental and advanced concepts of range and wildlife management.

#### TEA AFNR Educator Standards

The teacher understands:

1. Ecological principles, natural resources, and the impact of agriculture on the environment, and
2. The principles of ecosystem management.

As of August 1, 2016, state law regarding concealed carry of guns on state campuses became effective. For the Sul Ross policy visit

[http://www.sulross.edu/sites/default/files//sites/default/files/users/docs/president/chapter\\_2.33\\_fi\\_rearms\\_on\\_campus\\_5-27-2016.pdf](http://www.sulross.edu/sites/default/files//sites/default/files/users/docs/president/chapter_2.33_fi_rearms_on_campus_5-27-2016.pdf)