NRM 4307 – Range and Wildlife Habitat Management
Dept. of Natural Resource Management, Sul Ross State University
Fall 2023 – Course Syllabus

Instructor: Dr. Carlos E. Gonzalez
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Office: 116 RAS
Office hours: Monday & Wednesday, 8:00 AM to 10:00 AM.

Lecture location: RAS 129
Time: Monday - Wednesday, 12:00 PM – 1:40 PM.

- We only meet 12:00 PM – 1:00 PM for lectures. The additional time will be spent in the Field Trips.

Course Description
We will cover the application of knowledge to enhance the productive potential of the rangeland for all uses. Methods for brush management, revegetation, conservation, and grazing are included. Improvement for optimum livestock and wildlife through habitat characteristics manipulation is emphasized. Two or three one-day field trips on Saturdays are required and will be announced in advance.

Course Objectives
- Provide an understanding of the unique treatments, developments, and structures helpful in improving the range resources and facilitating its use by domestic animals and wildlife.
- Provide training in the application of range improvements to optimize habitat for wildlife and domestic animals.
- Analyze the economic feasibility of improvement practices application.

Attendance
Attendance is mandatory. Each student is responsible for all material presented in lectures, handouts, text, supplemental readings, and class discussions. If the student is absent from the lecture, it is the student's responsibility to get the lecture material from another classmate.

Text Books (Optional):   Palmer, M.A., Zedler, J.B., and Falk, D.A. 2016. Foundations of Restoration Ecology. Island Press.

Fulbright, T.E. and J.A. Ortega-S. 2006. White-Tailed Deer Habitat Ecology and Management on Rangelands. Texas A&M University Press.

Student Learning Outcomes

The students will acquire knowledge and skills to develop range evaluation and monitoring programs to accomplish range sustainability, range data analysis, and interpretation to determine rangelands' biological and economic value and elaboration of written reports. The students will understand the practical value of range ecology methods and their application in real-life situations.

Field Trips

Short field trips during class time will be required to observe different grazing methods, brush control, rangeland improvements, biomass, and density sampling. You will be required to attend 2 field trips. The schedule for the trips will be announced as private properties grant access to their land.

Grading. The grading scale will be A = 90-100%, B = 80-89.9%, C = 70-79.9%, D = 60-69.9%.

Grading

Mid-Term Exam	25%
Final Exam	25%
Presentations	25%
Management Plan	25%

A = 90 - 100%
B = 80 – 89.9%
C = 70 – 79.9%
D = 60 – 69.9%
F = <60%

Grades will be assigned based on student performance in the three categories outlined below:

1. **The Mid-Term Exam** will cover all content of lectures and reading assignments. The format can include multiple-choice, true/false, short answers, and essay questions.

2. **The final Exam** will include material that we cover throughout the whole semester.

3. **Presentation**. The study sites visited during the lab will serve as exercises in which the students will be asked to give a presentation on how they recommend

managing the habitat. Students will do this through a PowerPoint Presentation the next day following a visit to a site.

Keep in mind the following when creating the management plan and presentations:

    a) Assessment of the problem
    b) Statement of restoration goals/targets
    c) Restoration plan describing what should be done
    d) Expectations
    e) A description of the monitoring plan

4. **Management Plan**. Students will choose a degraded local habitat in need of restoration. Students must visit the site and design a management plan to meet livestock, wildlife, hydrology, or soil goals.

Grades will be assigned based on the completeness and detail of the project design and the ability to integrate principles discussed in the lectures to the restoration plan & presentation. In addition, grades will be assigned based on the clarity and professionalism of the presentation and the ability to justify the restoration proposal convincingly.

Course Outline. *Tentative and subject to change*
1. Introduction & Challenges
2. Adaptive Management, Range Models & Monitoring
3. Brush History
4. Wildlife Requirements
5. Grazing Introduction & Holistic Management
6. Grazing Systems & Drought
7. Stocking Rates
8. Grazing Distribution and Nutrition
9. Grazing/Fire & Fire
10. Mechanical & Chemical
11. Invasive species & Native seeding
12. Presentations

Laboratory/Field trips topics
1. Range plant identification
2. Estimation of biomass production
3. Hydrology
4. Soil erosion control
5. Estimate of correct cattle stocking rate and grazing systems
6. Prescribed burning

Class etiquette. Please turn cell phones off at the beginning of each class. Put away all computers during lectures and do not web surf or email during class.

Academic Dishonesty:
Academic dishonesty includes copying, sharing, or obtaining information from an unauthorized source, attempting to take credit for the intellectual work of another person, falsifying information, and giving or receiving information about a test, quiz, or assignment to other students. Any student involved in academic dishonesty will receive no credit (0) for work done and/or may be penalized in accordance with published University Rules.

Counseling and Accessibility Services:
Sul Ross State University is committed to equal access in compliance with the Americans with Disabilities Act of 1973. It is the student's responsibility to initiate a request for accessibility services. Students seeking accessibility services must contact Mary Schwartze, M. Ed., L.P.C., in Counseling and Accessibility Services, Ferguson Hall, Room 112. The mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas 79832. Telephone: 432-837-8691. Email: mschwartze@sulross.edu.

Grading Rubric for Presentations

	Emerging (0-12 points)	Developing (13-16 points)	Advanced (17-20 points)	Score
1. Organization (20 points)	Ideas may not be focused or developed; the primary purpose is not clear. The introduction is undeveloped. The main points are challenging to identify. Transitions may be needed. There is no conclusion, or it may not be clear the presentation has concluded. The conclusion does not tie back to the introduction. The audience cannot understand the presentation because there is no sequence of information.	The main idea is evident, but the organizational structure may need to be strengthened; ideas may not clearly be developed or flow smoothly. The purpose is not clearly stated. The introduction may not be well developed. The main points are not clear. Transitions may be awkward. Supporting material may lack in development. The conclusion may need additional development. The audience has difficulty understanding the presentation because the sequence of information is unclear.	Ideas are clearly organized, developed, and supported to achieve a purpose; the purpose is clear. The introduction gets the attention of the audience and clearly states the specific purpose of the speech. The main points are clear and organized effectively. The conclusion is satisfying and relates to the introduction. (If the purpose of the presentation is to persuade, there is a clear action step identified and an overt call to action.)	
2. Topic Knowledge (20 points)	The student does not have a grasp of information; the student cannot answer questions about the subject. Few, if any, sources are cited. Citations are misattributed. Inaccurate, generalized, or inappropriate supporting material may be used. Over dependence on notes may be observed.	The student has a partial grasp of the information. Supporting material may lack originality. Citations are generally introduced and attributed appropriately. The student is at ease with expected answers to all questions but fails to elaborate. Over dependence on notes may be observed.	The student has a clear grasp of the information. Citations are introduced and attributed appropriately and accurately. Supporting material is original, logical, and relevant. The student demonstrates full knowledge (more than required) by answering all class questions with explanations and elaboration. Speaking outline or note cards are used for reference only.	
3. Audience Adaptation (20 points)	The presenter is not able to keep the audience engaged. The verbal or nonverbal feedback from the audience may suggest a lack of interest or confusion. Topic selection does not relate to audience needs and interests.	The presenter can keep the audience engaged most of the time. When feedback indicates a need for idea clarification, the speaker attempts to clarify or restate ideas. Generally, the speaker demonstrates audience awareness through nonverbal and verbal	The presenter can effectively keep the audience engaged. Material is modified or clarified as needed, given audience verbal and nonverbal feedback. Nonverbal behaviors are used to keep the audience engaged. The delivery style is adjusted as required. Topic selection and examples are interesting	

		behaviors. Topic selection and examples are somewhat appropriate for the audience, occasion, or setting. Some effort to make the material relevant to audience needs and interests.	and relevant for the audience and occasion.	
4. Language Use (Verbal Effectiveness) (20 points)	Language choices may be limited, peppered with slang or jargon, too complex, or too dull. Language is questionable or inappropriate for a particular audience, occasion, or setting. Some biased or unclear language may be used.	The language used is mostly respectful or inoffensive. Vocabulary is appropriate, but word choices are not particularly vivid or precise.	Language is familiar to the audience, appropriate for the setting, and free of bias; the presenter may "code-switch" (use a different language form) when appropriate. Language choices are vivid and precise.	
5. Delivery (Nonverbal Effectiveness) (20 points)	The delivery detracts from the message; eye contact may be minimal; the presenter may tend to look at the floor, mumble, speak inaudibly, fidget, or read most of the speech; gestures and movements may be jerky or excessive. The delivery may appear inconsistent with the message. Nonfluencies ("ums") are used excessively. Articulation and pronunciation tend to be sloppy. The poise of composure is lost during any distractions. Audience members have difficulty hearing the presentation.	The delivery generally seems effective – however, effective use of volume, eye contact, vocal control, etc., may not be consistent; some hesitancy may be observed. Vocal tone, facial expressions, clothing, and other nonverbal expressions do not detract significantly from the message. The delivery style, tone of voice, and clothing choices do not seem out-of-place or disrespectful to the audience or occasion. Some use of nonfluencies is observed. Generally, articulation and pronunciation are clear. Most audience members can hear the presentation.	The delivery is extemporaneous -- natural, confident, and enhances the message – posture, eye contact, smooth gestures, facial expressions, volume, pace, etc., indicate confidence, a commitment to the topic, and a willingness to communicate. The vocal tone, delivery style, and clothing are consistent with the message. Delivery style and clothing choices suggest an awareness of expectations and norms. Limited use of nonfluencies is observed. Articulation and pronunciation are clear. All audience members can hear the presentation.	