

NRM 3303 – Restoration and Conservation of Natural Resource
Dept. of Natural Resource Management, Sul Ross State University
Fall 2022 – Course Syllabus

Instructor: Dr. Carlos E. Gonzalez

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Office: 114 RAS

Office hours: Monday & Wednesday, 8:00 AM to 10:00 AM.

Lecture location: RAS 129

Time: Monday, Wednesday & Friday, 10:00 AM to 10:50 AM

Description. The practice of Natural Resource Management has been conducted in some form or another for hundreds of years. In contemporary societies, management efforts have focused on returning a disturbed ecosystem to some perceived historical condition defined by the stakeholders. Modern ecosystems' management attempts to recover these complex systems' composition, structure, and function. Restoration Ecology is a challenging and intellectually stimulating field that is interdisciplinary in nature, requiring consideration of social, political, economic, and scientific issues to be successful. The class integrates principles from ecology used to repair ecosystems that have been degraded, damaged, or destroyed.

In this course, we will focus on what ecological science contributes to restoration ecology; more specifically, students will develop an understanding of ecological theory as it is applied to the restoration of ecosystems and natural resources. The goal is to acquire the knowledge needed to restore the structure of biological communities and ecological functions and improve ecosystem services. This course is designed for students who envision themselves actively involved in natural resource management projects during their careers.

Using a combination of lectures, readings, field trips, and project work, we will cover the conceptual and theoretical foundations that underlie restoration efforts and link these to real-world applications in past and ongoing restoration projects. In addition, we will take advantage of ongoing projects in the Chihuahuan Desert to reinforce principles discussed in class.

Course Objectives:

1. Understand the ecological concepts relevant to restoring ecosystems and critically consider the scientific/logistic challenges of applying these concepts to a restoration plan.
2. Learn how to think critically regarding the structure and relationships of ecosystem modules.
3. Learn the ecological processes that control the structure and function of a specific ecosystem by participating in an ongoing restoration project and developing a restoration plan.

Course Outline. *Tentative and subject to change*

1. Ecological Restoration and Conservation
2. Goals in Restoration
3. Diverse and Resilient
4. Ecological Dynamics
5. Ecological Resilience
6. Ecological Theory in Restoration
7. Intermediate Disturbance
8. Novel Ecosystems
9. Invasive Species
10. Wildlife Reintroductions
11. Corridors
12. Stram Restoration
13. Habitat Restoration (Hot Desert Scrub to Grasslands)

Important dates

SEP/2	LABOR DAY
NOV/27	THANKSGIVING BREAK
NOV/29	THANKSGIVING BREAK
DEC/5	DEAD DAY

Grading Breakdown

<u>Category</u>	<u>Percentage of Final Grade</u>
3 Exams	50%
1 Final Exam	20%
Pop Quizzes	15%
Attendance	15%

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

Detailed Breakdown

Exams (100 points total each / 50% of final grade)

- Includes 3 exams throughout the semester.
- The material tested covers all information discussed in class until the exam date.

Final Exam (100 points total / 20% of final grade)

- The material tested covers all content from the entire semester.

Quizzes (100 points total each / 15% of final grade)

- Quizzes will be administered randomly and periodically throughout the semester.
- They will cover content from lectures and reading assignments, including multiple-choice, true/false, short answer, and essay questions.

Attendance (100 points total / 15% of final grade)

- Regular attendance is expected and will be tracked throughout the course.

Class etiquette: Please turn cell phones off at the beginning of each class. You can use computers during lectures for taking notes, but do not surf the web 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 Schwartz, 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: mschwartz@sulross.edu.