

**NRM 5306 - GIS, GPS and Remote Sensing
Syllabus - Spring 2017**

Lecture/Lab Times: 1-1:50pm (lecture) 2-4:50pm (lab) in RAS126

Instructor: Josh Cross
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Office: RAS 140

Required Text: None.

Course Description: An advanced course on the rapidly growing geographic technology used by natural resource managers and scientists including: geographic information systems (GIS), global positioning systems (GPS), and remote sensing methods.

Course Objective: Students will be introduced to new and advanced techniques for GIS, GPS, and remote sensing. Specifically, upon course completion students shall understand:

- The latest technologies in this field.
- How to use a GPS to collect data, import it into a GIS, and analyze it.
- How and where to find GIS and remote sensing data.
- How to access and use the web soil survey data available on the internet.
- Mapping a ranch from start to finish including providing printed report and maps

Grading:	40%	Attendance/Participation	Scale:	90-100% = A
	60%	Final Project		80-89% = B
				70-79% = C
				60-69% = D
				<60% = F

Attendance: Attendance and participation represents 40% of your final grade. You will be graded based on your contributions and participation during class discussions and field/lab activities. You will also be graded based on your class attendance. Because the class only meets one day a week, attendance is essential. There are only 15 regular class days and students will be allowed 2 “explained” absences. Notify instructor prior to explained absences. Additional absences will result in a 5% reduction in your grade (e.g., 3 absences = -5%, 4 absences = -10%). Students will only be counted as “present” in class if they attend the entire class period.

Final Projects: Students will be working as a team on a ranch mapping project. Details will be discussed in class.

Assistance: Primary assistance by instructors will be provided during scheduled class times. Arrangements can be made for additional help as needed.

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. E-mail: mschwartz@sulross.edu.

Additional Outcome Objectives as Required by the Southern Association of Colleges and Schools:
Student Learning Outcomes for the M.S. in Natural Resource Management:

1. Students will be able to apply statistical concepts and procedures to research.
2. Students will be able to evaluate literature and references to substantiate the applied research project.
3. Students will be able to justify and defend research questions and design.

Course Tentative Schedule – Spring 2017

Date	Lecture/Lab
18-Jan	Introduction and project planning
25-Jan	Project planning
1-Feb	Downloading base layers/ data sources
8-Feb	Discuss data collection
15-Feb	Soils Data Viewer, working with soils, ecological maps
22-Feb	Data Collection
1-Mar	Data Collection
8-Mar	Data Collection
15-Mar	Spring Break
22-Mar	Data Collection
29-Mar	Develop maps
5-Apr	Develop meta data
12-Apr	Google earth – package for landowner
26-Apr	Work on final product (print maps and reports)
3-May	Presentation of maps and project