



RS329: Rangeland Assessment
Department of Forest and Rangeland Stewardship
Warner College of Natural Resources

COURSE SYLLABUS

| | Instructor | Teaching Assistants |
|---------------|---------------------------------------|---------------------|
| Name: | Maria E. Fernandez-Gimenez | Jennifer Timmer |
| Office: | NR200 | |
| Phone: | 491-0409 | Chris Dickey |
| E-Mail: | maria.fernandez-gimenez@colostate.edu | |
| Office hours: | By appointment | |

| | |
|----------------------|-------------------------------------|
| Term: | Summer 2016 |
| Class Meeting Days: | M-F |
| Class Meeting Hours: | 8:00-5:00 (7:30-4:30 on field days) |
| Class Location: | NR201 |
| Lab Location: | Field, NR201 |
| Course Credits: | 1 |

Course Overview

RS329 Rangeland Assessments is a week-long intensive field course intended to build students' field skills in identification and mapping land classification units (ecological sites), assessment of soil and vegetation relative to reference conditions for a particular site, and use of state and transition models to interpret current and potential conditions. Students integrate and apply knowledge of soils, plant communities and range management principles to assess, interpret and describe current and potential future conditions on a management unit, and present their results in a professional oral and written report

Course Objectives

At the end of the course, students will be able to:

1. Identify, distinguish between and map ecological sites and vegetation states in the field
2. Demonstrate understanding of soil-plant-management relationships in a rangeland landscape
3. Assess and interpret the ecological function of a set of ecological sites and vegetation states in a given landscape
4. Communicate the results of your assessment effectively in an oral presentation and written report

Course Prerequisites

SOCR 240; RS300; RS331 or RS310 or F310

Required Texts (posted on Canvas and/or provided in class)

1. Herrick, J.E., J.W. Van Zee, K.M. Havstad, L.M. Burkett, W.G. Whitford. 2005. *Monitoring Manual for Grassland, Shrubland and Savanna Ecosystems, Volume I: Quick Start*. Las Cruces, NM: USDA-ARS Jornada Experimental Range.
2. Herrick, J.E., J.W. Van Zee, K.M. Havstad, L.M. Burkett, W.G. Whitford. 2005. *Monitoring Manual for Grassland, Shrubland and Savanna Ecosystems, Volume II: Design, Supplementary Methods and Interpretation*. Las Cruces, NM: USDA-ARS Jornada Experimental Range.
3. Pellant, M., P. Shaver, D.A. Pyke and J.E. Herrick. 2005. *Interpreting Indicators of Rangeland Health, Version 4*. Denver: USDI, BLM.
4. Schoeneberger, P.J., D.A. Wysocki, E.C. Benham, and Soil Survey Staff. 2012. *Field Book for Describing and Sampling Soils, Version 3.0*. Lincoln, NE: Natural Resources Conservation Service, National Soil Survey Center.
5. Duniway, M.C., B. T. Bestelmeyer, and A. Tugel. 2010. Soil processes and properties that distinguish ecological sites and states. *Rangelands* 32(6):9-15.
6. Briske, D.D., B.T. Bestelmeyer, T.K. Stringham, and P.L. Shaver. 2008. Recommendations for development of resilience-based state-and-transition models. *Rangeland Ecology and Management* 61: 359-367.

Recommended Texts (posted on Canvas)

1. Caudle, D., J. DiBenedetto, M. Karl, H. Sanchez, and C. Talbot. 2013. *Interagency Ecological Site Handbook for Rangelands*. Washington, DC: USDA NRCS.
2. Herrick, J. et al. 2010. National ecosystem assessments supported by scientific and local knowledge. *Frontiers in Ecology and the Environment* 8(8):403-408.

Required Materials and Personal Gear

1. Field notebook and pencil/pen for field notes. A small, pocket-sized notebook is recommended.
2. Clipboard
3. 3-ring binder for maps, ecological site descriptions, and management documents
4. Personal gear: boots (very important—we will be in an area with cactus and snakes), hat, sunglasses, sunscreen, (long sleeves recommended), water, lunch, snacks, work gloves.
5. Recommended: Charged cell phone will be helpful for field communication as we will be spread out across 630 acres. Small camera or cell phone for plot photos. Plant identification books.

Course Requirements

Attendance at lectures, labs and field trips is mandatory. This is a short, intense class, and attending all of it will greatly increase your understanding of concepts and your ability to contribute to the final project. Plus, fieldwork is fun! Please dress appropriately for outdoor fieldtrips (hat, sunglasses, long sleeves, long pants, rain gear, boots). Do NOT wear sandals, platforms or ballet slippers. We will be working in areas where snakes and cacti are common. You will want to bring sunscreen and bug repellent. For field days (Tuesday, Wednesday, Thursday) bring water, lunch and snacks. We will be away from any formal restroom facilities, so be prepared. Absolutely no pets, firearms or intoxicants shall be brought on fieldtrips. We will not

cancel a field trip if it is drizzling or moderately inclement. Please be on time. Vans leave 5 minutes after the scheduled departure time.

Memo and Project Assignments You will have two written assignments for this class, a professional memo outlining the objectives, approach and justification for the assessment, and the final written report. In addition, students will make oral presentations summarizing the results of their component of the assessment during the last day of class (Friday August 19). Details on these assignments will be handed out in class. The final written report is due by 5pm on August 26.

Field Notes You will keep a notebook for field notes and observation during our field trips. The field notebook will be reviewed periodically during the week and turned in at the end of the class.

Participation is a critical part of your learning and your contribution to the final project. Participation will be based on active engagement during the classroom lectures, discussion and lab activities; professionalism, attitude, teamwork and engagement during the fieldtrip labs; and your group's peer assessments.

Basis for Final Grade

| Assessment | Due Date | Percent of Final Grade |
|--------------------|---|-------------------------------|
| Participation | Throughout | 30% |
| Memorandum | Aug. 16 8am | 10% |
| Field Notes | Checked throughout, turn in Aug. 19 5pm | 10% |
| Final Presentation | Aug. 19 2pm | 10% |
| Written Report | Aug. 26 5pm | 40% |
| Peer Assessments | Aug. 26 5pm | Ungraded |
| TOTAL | | 100% |

Grading

| | |
|--------|---|
| 90-100 | A |
| 80-89 | B |
| 70-79 | C |
| 60-69 | D |
| <60 | F |

Tentative Course Schedule

| Day | Lecture | In-Class Lab | Field/Lab | Reading | Assignment Due |
|------------|---|---|--|---|--|
| Aug 15 | Intro to Assessment Management & Assessment Objectives Intro to Ecological Sites & States and Transitions | Objectives Activity Stratification Activity Objectives Memo | | Herrick et al. 2005 Vol. II, Chapters 1-3 | |
| Aug 16 | | All day in field | Soil Description Map Ecological Sites and States | Duniway et al. 2010 Briske et al. 2008 Schoeneberger et al. 2012 | Objectives Memo 8:00am Data Sheets (5pm) |
| Aug 17 | Indicators of Rangeland Health, Quantitative Indicators | AM lecture PM Summarize Data | Indicators of Rangeland Health Line Point Intercept Visual Obstruction Dry Weight Rank | Pellant et al. 2005 Herrick et al. 2005 Vol 1, p. 9-13 and 16-20- | Data Sheets (5pm) |
| Aug 18 | | AM field PM Summarize & Enter Data Calculate similarity index | Photo Points Revise Ecological Site and State Maps Plot tour (field presentation by each group) | | Data Sheets (5pm) |
| Aug 19 | Synthesizing & Interpreting Assessment Data Concluding Thoughts | Prepare Final Presentation | | | Oral Report 2:00pm Field Notes 5pm |
| Aug 26 | | | | | Final Project Report 5:00pm |

Course Policies

Late Work Policy:

Due to the intensive short course nature of this class, late work will not be accepted.

Extra Credit Policy:

Extra credit may be offered at the discretion of the instructor for field measurements or analyses beyond those required for the final project.

Grades of "Incomplete":

Per university policy, an instructor may assign temporary grade of Incomplete to a student who demonstrates that he or she could not complete the requirements of the course due to circumstances beyond the student's control and not reasonably foreseeable. A student must be passing a course at the time that an Incomplete is requested unless the instructor determines that there are extenuating circumstances to assign an Incomplete to a student who is not passing the course. When an instructor assigns an Incomplete, he or she shall specify in writing using the Department Incomplete Grade Form the requirements the student shall fulfill to complete the course as well as the reasons for granting an Incomplete when the student is not passing the course. The instructor shall retain a copy of this statement in his or her grade records and provide copies to the student and the department head or his or her designee. (Section I.6 of the *Academic Faculty and Administrative Professional Manual*)

Disability Access:

Colorado State University is committed to providing reasonable accommodations for all persons with disabilities. Students with disabilities who need accommodations must first contact Resources for Disabled Students before requesting accommodations from the professor. Resources for Disabled Students (RDS; <http://rds.colostate.edu/home>) is located in room 100 of the General Services Building. Their phone is (970) 491-6385 (V/TDD). Students who need accommodations in this course must contact the professor at the beginning of the semester to discuss needed accommodations.

Attendance Policy:

Due to the hands-on field course nature of this class, and the teamwork involved in the group project, attendance all five days is mandatory.

Professionalism Policy:

Class will begin at 8:00 on indoor class days and 7:30am on field days. Please be prompt! Per university policy and classroom etiquette; mobile phones, iPods, *etc.* **must be silenced** during all classroom and lab lectures. Those not heeding this rule will be asked to leave the classroom/lab immediately so as to not disrupt the learning environment. When emailing the instructor or TA, please include your full name, CSU ID, and the course number in your email.

Academic Integrity:

The Department of Forest and Rangeland Stewardship takes academic integrity seriously. At minimum, academic integrity means that no one will use another's work as their own. The CSU writing center defines plagiarism this way:

Plagiarism is the unauthorized or unacknowledged use of another person's academic or scholarly work. Done on purpose, it is cheating. Done accidentally, it is no less serious. Regardless of how it occurs, plagiarism is a theft of intellectual property and a violation of an ironclad rule demanding "credit be given where credit is due."

Source: (Writing Guides: Understanding Plagiarism.

<http://writing.colostate.edu/guides/researchsources/understandingplagiarism/plagiarismoverview.cfm>.

Accessed, May 25, 2012)

If you plagiarize in your work you could lose credit for the plagiarized work, fail the assignment, or fail the course. Each instance of plagiarism, classroom cheating, and other types of academic dishonesty will be addressed according to the principles published in the CSU General Catalog (see page seven, column two: <http://www.catalog.colostate.edu/FrontPDF/1.6POLICIES1112f.pdf>).

Of course, academic integrity means more than just avoiding plagiarism. It also involves doing your own reading and studying. It includes regular class attendance, careful consideration of all class materials, and engagement with the class and your fellow students. Academic integrity lies at the core of our common goal: to create an intellectually honest and rigorous community. Because academic integrity, and the personal and social integrity of which academic integrity is an integral part, is so central to our mission as students, teachers, scholars, and citizens, we will ask to you sign the CSU Honor Pledge as part of completing all of our major assignments. While you will not be required to sign the honor pledge, we will ask each of you to write and sign the following statement on your papers and assignments: ***"I have not given, received, or used any unauthorized assistance."***