

Grazing Ecology and Management

RA M 436A/536A

2 U, MW 9:00-9:50, 225 Biological Sciences East

Instructor: Steve Smith, 211 BSE, azalfalf@ag.arizona.edu, 621-5325; [web page](#). Office hours are Mondays 10:00-11:00 AM and Tuesdays 3:00-4:00 PM, or by appointment.

Course description:

This course examines how herbivores interact with their environment and how understanding of these interactions is applied to the management of grazing animals or the environments they inhabit or both. Emphasis is placed on the scientific basis for grazing management decisions and management designed to accomplish a variety of outcomes.

Desired Student Outcomes:

Students completing this course are expected to acquire:

- Basic knowledge of the ecological principles that underlie the interactions between grazing animals and the environment they inhabit. This includes the relevant elements of history, geography, evolution, geochemistry, hydrology, climatology, and plant development and physiology, and animal anatomy, physiology, and behavior;
- An understanding of methods and procedures used in grazing ecology and management research and practice including the scientific vocabulary of this field;
- The ability to apply fundamental principles to develop integrated solutions to a variety of grazing management problems;
- The ability to understand and critically interpret scientific and popular presentations that address grazing ecology and management;
- The ability to think critically as demonstrated by evaluating information from multiple perspectives, draw reasonable conclusions, and defend them rationally;
- The ability to clearly communicate scientific concepts and analytical arguments related to grazing ecology and management to both general and scientific audiences.

Organization and conduct of the course:

We will learn about grazing ecology and management using a variety of approaches. These will include:

1. “Traditional” **lectures**. Most lectures will involve a PowerPoint presentation. Some of these presentations will be available for downloading for a limited time from the Content page of the course D2L website—usually for five-seven days after they are presented. At least some lectures will be “interactive” with

active participation by everyone and not just the instructor. Participation will be part of a student's final grade in the course. In some cases, scoring participation will involve an evaluation of the quality of participation, in others it will be based simply on whether a student does or does not participate. If you are prepared, organized and engaged in discussions you will likely earn good participation scores.

2. **Electronic tutorials.** These will typically involve self-paced study of a downloaded text and image presentations—generally as PowerPoint files. (See Resources section below for information on viewing PowerPoint files.) The tutorials must be completed in a specific period of time and this is noted on the Schedule. Some tutorials may be available on-line for a limited time. In some cases, tutorials may replace a regular classroom meeting. Often there will be an assignment associated with the tutorial that must be submitted to the D2L Dropbox by a certain date and time. It is your responsibility to be familiar with these deadlines.

Resources:

The key resource for this class is the course home page within D2L (see below). Content of the page will change periodically.

Viewing PDF files will require the most recent version of the free [Adobe Reader](#) installed on the computer you are using. If the computer that you are using does not have PowerPoint installed, you may download a free [PowerPoint viewer](#) (PC version only), which will allow you to view PowerPoint presentations.

Evaluation:

All grading is done separately for undergraduate and graduate students. Graduate students will be required to meet separately with me twice during the semester. Graduate students will read current literature and discuss these readings during these special meetings. Assignment of final grades is not based on any preconceived thresholds for letter grades, but roughly follows: >90% = A; 80-89% = B; 70-79% = C; 60-69% = D; <60% = E.

Midterm exams (two, only highest single score counts , no make-ups given)	1 @ 100 points = 100
Lecture/electronic tutorial exercises	6 @ 10 points = 60
Stocking rate calculator	1 @ 60 points = 60
Participation (includes participation in discussions) ¹	25 points = 25
Discussion of current literature ²	1 @ 25 points = 25
Final exam (comprehensive)	1 @ 130 points = 130
TOTAL	----- 375 pts.

¹ Undergraduate students only.

² Graduate students only.