

## RS 630: Ecology of Grasslands and Shrublands

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Office hrs: 10-12 MWF.  
Class Web page: [http://www.cnr.colostate.edu/class\\_info/rs630/ \[ID=RS630, Passwd=grassland\]](http://www.cnr.colostate.edu/class_info/rs630/[ID=RS630,Passwd=grassland])  
Format: 3 - one hour meetings per week; lectures and discussions.

### Objectives:

1. Understand how grassland and shrubland plants, plant communities, and ecosystems work.
2. Understand the observed spatial distributions of grasslands and shrublands from landscape to global scales.
3. Explore explanations for the observed spatial patterns.

Exams: There will be a written exam and a one-hour oral exam. The written exam will extend over the entire semester and will be handed out on the first day of class. A portion of the exam will be due each week of the semester (almost). The oral exam will occur at the end of the semester and will consist of further exploration of the answers to the questions on the written exam.

Discussion: A portion of our class time will be devoted to discussions. It will be very important that we all come prepared to each discussion and that each of us are willing to participate.

Grades: I will sum the number of points you earned on the written and oral exams and homework. Grades will be based on the following table:

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

## **Instructional and Performance Objectives**

### **Lectures**

My objective for each lecture is twofold. The first objective is to explain something that I consider important about the structure or function of grasslands and/or shrublands. The second objective is to engage you in a dialog about the topic. While this is almost never a symmetric discussion (I talk the most) it can be enormously important to all of us. Questions and comments can do a lot to clarify the points I am trying to make as well as provide me with information about how well or clearly I am making my points.

### **Discussions**

My objective for the discussions is to reverse the asymmetry of the lectures. Here I hope to be the minor player and you the major one. This is where you have the opportunity to exchange ideas with everyone in the class about the discussion paper. You can work on your skills in presenting your ideas and listening to those of others. Discussions are difficult. Good ones are an enormous amount of fun and the others are or can be excruciating. The harder each of us works the higher the probability that we will have mostly good ones.

### **Exam**

My major objective for the exams is to have you provide me with clear, concise explanations of relationships among structures and/or processes in grassland and shrubland ecosystems. To a large extent, lectures will be topic oriented and the exams will emphasize relationships among topics. A minor yet also important objective of the exams is to provide you with an opportunity to work on your ability to be an effective written and oral communicator.

## Important Dates

Week		
1	Aug	22-26
2	Aug 29-Sept 2	No class Sept 2
3	Sept 5-9	Sept 5; Holiday
4	12-16	
5	19-23	Answer to question 4 due
6	26-30	
7	Oct 3-7	Answer to question 9 due
8	10-14	Answer to question 1 due
9	17-21	Answer to question 7 due
10	24-28	Answer to question 2 due
11	Oct 31-Nov 4	Answer to question 8 due
12	Nov 7-11	Answer to question 3 due
13	14-18	Answer to question 6 due
14	21-25	Thanksgiving Break
15	Nov 28-Dec 2	Answer to question 5 due
16	Dec 5-9	
17	Dec 12-16	Oral exams

## Topic Schedule

Aug	Introduction Global distribution of grasslands and shrublands
Sept	Climatology of grasslands and shrublands Plant, soil and ecosystem water balance
Oct	Plant and ecosystem carbon balance Ecosystem nitrogen balance Competition between grasses and woody plants
Nov	Disturbance and secondary succession Herbivory and fire Global Change
Dec	Invasive species