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### SCN 105N.00: Montana Ecosystems - Lecture

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## SCN105N: *Montana Ecosystems* course syllabus

Spring 2015

**Instructor:** Greg Peters

**Contact:** greg.peters@mso.umt.edu; 207-6154

**Office Hours:** T & Th 10:00-12:00 in HB 02

### **Class meetings:**

Montana Ecosystems meets twice weekly for lecture discussions and has one, two-hour Lab meeting each week. Check your class schedule for specific meeting times. To meet course requirements, all students must be enrolled in the lecture course *and* in one Friday lab section.

### **Text:**

Laboratory activities and course reading are provided in the *Montana Ecosystems* coursepack, available through the Missoula College bookstore. Use of this coursepack is required.

### **Course Description:**

*Montana Ecosystems* explores the living systems of Montana with a focus on dominant habitat types. We will explore the geologic and climatological settings that influence the distribution of Montana's remarkable diversity of ecosystems and species. We then examine the dominant vegetation patterns across Montana and how these patterns influence distribution of important species of animals. We connect these systems to discussions of energy dynamics in living systems. We will also examine the human influence on natural systems.

### **Course Objectives:**

- gain experience observing and reflecting on natural systems
- become familiar with Montana's dominant ecosystems
- understand the nature of science as a process
- understand principles of energy transformations in living systems
- recognize the human impacts on the landscapes of Montana

### **Assessment:**

	<b>points</b>	<b>grades</b>
1) Exams (highest 4 of 5)	400	90-100% = A- to A
2) Mini-quizzes (highest 10 of 11 @ 5 pts. ea.)	50	80-90% = B- to B+
3) Lab	250	70-80% = C- to C+
<hr/> TOTAL:	700	60-70% = D- to D+
		< 60% = F

### **Recommendations:**

The most important things you can commit to for a successful experience in this course are regular attendance and timely submission of quality work.

Keep up with available readings in the coursepack to get the most out of classroom meetings. The Moodle supplement for this course includes portions of class presentations, records of your grades, and resources to submit written work online.

## Course Policies:

Your lowest exam score will be dropped from your final grade; therefore, there will be NO make-up exams offered. In other words, an absence from an exam will count as your dropped exam. The final exam is comprehensive.

Exams will ask you to reflect on your learning by responding to questions in a diversity of formats. Students will be expected to work alone and without outside resources.

Miniquizzes and lab activities can only be completed during class and lab time, as scheduled.

Students with disabilities will receive appropriate accommodations. Please contact me and provide a letter from your DSS coordinator so that accommodations can be made.

After the 45<sup>th</sup> day of the semester, drops, adds, or changes of grade options are not automatically approved; they may be requested by petition, but the petition must be accompanied by documentation of extreme circumstances.

## Laboratory:

The lab portion of this class (your two-hour Friday class) is required for completion of the course. Participation will be evaluated through in class activities and written work. *Students may only attend the lab section for which they are registered.* Be sure to check the course schedule for the timing of lab activities and assignment due dates. Friday Lab meetings include:

- **Field labs:** Our field trips are opportunities to explore some dominant ecosystem types of Montana and practice the process of scientific investigation in the field. Labs meet in the scheduled classroom, even on field trip days.
- **In class lab activities:** Several lab classes will be in the classroom, with specific investigation of the dominant flora, fauna, and habitats of Montana. These activities are outlined in detail in your coursepack. Any missed in-class lab activities can only be turned in late for credit if accompanied by signed documentation of extreme circumstances, such as a doctor's note for an illness.
- The **grading** scheme for lab activities is as follows:

<b>Lab evaluation:</b>	<b>pts</b>
In class lab activities (6 @ 25 pts ea)	150
Field trip prep lab	10
<u>Lab reports (3 @ 30 pts ea.)</u>	<u>90</u>
Total	250

## Class Schedule

**Date:**                      **Chapter. Topic (pages):**    **Assignment due/ Quiz:**

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### Unit One: Montana's Landscape and Climate

1/26	Course Introduction	
1/28	1. Earth's ecosystems	Quiz 1
1/30	Lab: Montana Special Places & Fun Facts	
2/2	2a. Montana physiography	
2/4	2b. Montana mountains & landscapes	Quiz 2
2/6	Lab: Montana Birds	
2/9	2c. Montana climate	Quiz 3
2/11	3. Montana ecosystems overview	
2/13	Lab: Montana Flowers	
2/16	<i>No class: Presidents' Day</i>	
2/18	EXAM 1	
2/20	Lab: Montana Ecosystem Maps	

### Unit Two: Montana's Mountain Ecosystems

2/23	4. Classification of Life on Earth	
2/25	5. Alpine habitats	Quiz 4
2/27	Lab: Montana Mammals	
3/2	6a. Montana forests: trees of Montana	Quiz 5
3/4	6b. Montana forests: forest types	
3/6	Lab: Montana Conifers	
3/9	6c. Montana forests: forest animals	Quiz 6
3/11	6d. Montana forests: forest dynamics	
3/13	Lab: Field trip overview, science worksheet	
3/16	EXAM 2	

## Class Schedule

lab group A or B: \_\_\_\_\_

**Date:** \_\_\_\_\_ **Topic (chapter, pages):** \_\_\_\_\_ **Assignment due/ Quiz:** \_\_\_\_\_

### Unit Three: Montana's Valley Ecosystems

3/18	7a. Grasslands	Quiz 7
3/20	Field Lab 1A: Floodplain Forests	
3/23	7b. Sagebrush steppe	
3/25	8a. Wetlands	
3/27	Field Lab 1B: Floodplain Forests	
3/30 - 4/3	<i>Spring Break</i>	
4/6	8b. Wetlands	Quiz 8
4/8	9. Deserts	
4/10	Field Lab 2A: Grasslands	Lab Report 1
4/13	EXAM 3	

### Unit Four: Montana's Ecosystem Dynamics

4/15	10. Energy transformations	
4/17	Field Lab 2B: Grasslands	
4/20	11a. Biodiversity and ecosystem dynamics	Quiz 9
4/22	11b. Biodiversity and species interactions	Quiz 10
4/24	Field Lab 3A: Montane forests	Lab Report 2
4/27	12a. Human impacts on ecosystems	
4/29	12b. Human Habitats	
5/1	Field Lab 3B: Montane Forests	
5/4	12c. Montana Wildlands	Quiz 11
5/6	EXAM 4	
5/8	Review for Exam 5	Lab Report 3
5/12	Final Exam: Tuesday; 3:20-5:20; same lecture room	