9-2013

SCN 105N.00: Montana Ecosystems

Gregory Peters

University of Montana - Missoula, greg.peters@msou.umt.edu

Let us know how access to this document benefits you.
Follow this and additional works at: https://scholarworks.umt.edu/syllabi

Recommended Citation
https://scholarworks.umt.edu/syllabi/297

This Syllabus is brought to you for free and open access by the Course Syllabi at ScholarWorks at University of Montana. It has been accepted for inclusion in Syllabi by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@msou.umt.edu.
Instructor: Greg Peters
Contact: greg.peters@mso.umt.edu; 207-6154; 243-7848 to meet in office
Office Hours: M - Th, 12:30-1:30 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.

Course Description:
Montana Ecosystems explores the living systems of Montana with a focus on the dominant habitat types. We will explore the geologic setting that influences the distribution of Montana’s remarkable diversity of ecosystems and species of life. We then examine in detail 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. Finally, we will discuss 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
- become familiar with the human impacts on the landscapes of Montana

Assessment: points grades
1) Exams (highest 4 of 5) 400 90-100% = A- to A
2) Lab Reports (3 @ 20 pts ea.) 60 80-90% = B- to B+
3) Mini-quizzes (highest 10 of 11 @ 5 pts ea.) 50 70-80% = C- to C+
4) Animal Presentation 20 60-70% = D- to D+
5) Montana Ecosystems Map 15 < 60% = F
6) Montana Special Spot project/ MTplaces 15
7) Montana Conifer ID project 15
8) Lab participation 25
TOTAL: 600

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 discussions. 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.

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 45th 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 laboratory portion of this class (Friday classes) is required for completion of the course. Attendance will be recorded and graded. 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. Aspects of the Montana Ecosystems Friday Lab meetings include:

- **Field labs:** Our field trips are opportunities to explore some of the dominant ecosystem types of Montana and practice the process of scientific investigation in the field. Labs always meet first in the scheduled classroom, even on field trip days. Please be prepared for short distances of walking, unpredictable weather, and any personal needs such as food, water, and medication. Any emergency should first be brought to your instructor’s attention.
- **Lab reports:** Each Field Lab will require a written Lab Report; due dates are in the class schedule. Specific expectations will be explained in more detail prior to the first Lab Report deadline.
- **In class activities:** A few Lab days will be in the classroom, with specific investigation of the dominant flora, fauna, and habitats of Montana.
- **Student Presentations:** Two lab days will be devoted to student presentations. Details will be discussed one week in advance.
- **Montana Ecosystems Maps:** Each student will be provided lab time to complete a map of Montana’s major ecosystems, with important relevant information such as mountains and rivers.
- **Your Montana Special Spot:** Each student will be provided lab time to complete a one page outline (images and text) of one place in Montana, focusing on aspects such as climate, landscape, and the dominant flora and fauna.
- **Conifer Key:** Each student will be provided lab time to complete a one page field guide to the general types of conifers native to Montana.
Class Schedule

Lab group A or B? ____

Date: _______ Topic: ______________________________ Assignment due/ Quiz: 

Unit One: Montana’s Landscape and Climate
8/26 Course Introduction
8/28 1. Earth’s ecosystems Quiz 1
8/30 Lab: intro to lab & scientific investigation

9/2 No class: Labor Day Holiday
9/4 2. Montana physiography
9/6 Field Lab 1A: Montane forests

9/9 2. Montana’s mountains, landscapes Quiz 2
9/11 2. Montana climate Quiz 3
9/13 Field Lab 1B: Montane Forests

9/16 3. Montana ecosystem diversity overview
9/18 EXAM 1
9/20 Field Lab 2A: Grasslands Lab Report 1

Unit Two: Montana’s Mountain Ecosystems
9/23 4. Classification of Life on Earth Quiz 4
9/25 5. Alpine habitats
9/27 Field Lab 2B: Grasslands

9/30 6. Montana forests: trees of Montana Quiz 5
10/2 6. Montana forests: forest types
10/4 Field Lab 3A: Floodplain Forests Lab Report 2

10/7 6. Montana forests: forest animals Quiz 6
10/9 6. Montana forests: forest dynamics
10/11 Field Lab 3B: Floodplain Forests

10/14 EXAM 2
## Class Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Assignment due/ Quiz</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit Three: Montana’s Valley Ecosystems</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10/16</td>
<td>7. Grasslands</td>
<td>Quiz 7</td>
</tr>
<tr>
<td>10/18</td>
<td>Lab: Montana Conifers</td>
<td>Lab Report 3</td>
</tr>
<tr>
<td>10/21</td>
<td>7. Sagebrush steppe</td>
<td></td>
</tr>
<tr>
<td>10/23</td>
<td>8. Wetlands</td>
<td></td>
</tr>
<tr>
<td>10/25</td>
<td>Lab: Your Montana Special Spot project</td>
<td>Conifer Key due</td>
</tr>
<tr>
<td>10/28</td>
<td>8. Wetlands</td>
<td>Quiz 8</td>
</tr>
<tr>
<td>10/30</td>
<td>9. Deserts</td>
<td></td>
</tr>
<tr>
<td>11/1</td>
<td>Lab: Montana Ecosystem Maps</td>
<td>Your MT spot</td>
</tr>
<tr>
<td>11/4</td>
<td>EXAM 3</td>
<td></td>
</tr>
</tbody>
</table>

| **Unit Four: Montana’s Ecosystem Dynamics** |                                               |                                    |
| 11/6     | 10. Energy transformations, food webs         |                                    |
| 11/8     | Lab: Prep for student presentations           | Maps Due                           |
| 11/11    | *No class: VeteransDay Holiday*              |                                    |
| 11/13    | 11. Biodiversity and ecosystem dynamics       | Quiz 9                             |
| 11/15    | Lab: Student presentations, Group A           |                                    |
| 11/18    | 11. Biodiversity and species interactions     | Quiz 10                            |
| 11/20    | 12. Human impacts on Montana’s ecosystems     |                                    |
| 11/22    | Lab: Student presentations, Group B          |                                    |
| 11/25    | 12. Human Habitats                            |                                    |
| 11/27    | *No class: Thanksgiving Travel Day*          |                                    |
| 11/29    | *No class: Thanksgiving Day Holiday*         |                                    |
| 12/2     | 12. Montana Wildlands                         | Quiz 11                            |
| 12/4     | EXAM 4                                        |                                    |
| 12/6     | Lab: Wrap-up and Final Exam review            |                                    |
| 12/10    | Final Exam: Tuesday, 1:10-3:10; same room     |                                    |