

OGLALA LAKOTA COLLEGE
Course Syllabus for

Ecology (Bio 223)

Fall 2008

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Course Description

Ecology (Bio 223): The study of the interrelationship of living organisms and the environment. Topics include interactions at the population, community, and ecosystem levels; the study of energy flow, and nutrient cycling within these systems. Included also is the study of the geologic, hydrologic, and atmospheric process involved in the maintenance of life on earth, with emphasis on the importance of human actions to promote sustainability and health of natural processes (3 credits).

Prerequisites

Bio 164 Introductory Biology II and Chem 103 Survey of General Chemistry.

Required Text(s)

- 1) Molles, M. C, Jr. 2008. *Ecology: concepts and applications*. MacGraw-Hill. ISBN 978-0-07-305082-9.

Supplementary Materials

Supplementary materials will be given during the semester, as needed.

Descriptive Reading Load

It is imperative that you *read* the scheduled chapters and/or scientific papers assigned before coming to class in order to be prepared for discussion and participation. Reading is an important key to success in this class. Grade 14 reading level.

Research

You will be required to research about the ecology of plants or animals (i.e. in both terrestrial and aquatic ecosystems and focusing on plant/animal communities, populations or individuals, as well as studies of the interactions between plants/animals and their environment or plants/animals and other organisms. To fulfill this objective you will: 1) collect information from scientific publications, scientific collections, local agencies reports, on topics related to your subject; 2) analyze the data; 3) write a report, and 4) prepare a presentation. Your reports should be written in scientific style (*Journal of Ecology* format) with references to information sources cited in the text and should contain a literature

cited section at the end that gives all publication data necessary for anyone to find your source papers.

Lakota Perspective Provided Through: Wolakolkiciyapi

Students are encouraged to display the Lakota values of respect, knowledge, generosity, fortitude, truthfulness, and courage as you perceive such.

Class Attendance and Course Requirements

1. To succeed in this course, **regular attendance** is imperative. Your presence and participation is critical to your achievement. In accordance with OLC policy, you will be dropped from the course if you miss more than three consecutive class periods or if you miss more than five class periods during the semester.
2. If you plan to miss class you must contact the instructor *in advance* by e-mail. It is **your responsibility** to make sure you receive all assignments and instructions.
3. **No Make-ups exams.**
4. All OLC and Math & Science departmental policies apply to this class.

Evaluations and Markings

1. **Homework:** read and carry out your research.
2. **Research:** Keep all your data and notes in a notebook. This procedure enables to better organize and analyze your data during the research project. These assignments are multifaceted: (1) you will gain experience on ecology; (2) you will learn how to analyze data and research science information; and (3) you will gain experience by presenting your results in a scientific format.
3. **Exams and grading procedures:** the class grade is equal to lectures (50%) and research (50%) grades. The lecture grade will rest on one *midterm*, and one *final* (not comprehensive). The research grade will rest on *class* and *home work* and the final *report*.

Grading

Grade		The following scale will be used:
Final Exam	25%	A = 90% - 100%
Midterm	25%	B = 80% - 89.9%
Class and home work	20%	C = 70% - 79.9%
Final scientific paper	30%	D = 60% - 69.9%
<i>Total</i>	100%	F = below 60%

Tentative Schedule

Week	Chapter	Information
1	1	Introduction and research project guidelines
2	2-3	Section I - Natural History
3	2-3	Section I - Natural History
4	4-7	Section II - Individuals
5	4-7	Section II - Individuals
6	8-12	Section III - Population Ecology
7		<i>Midterm</i>
8	8-12	Section III - Population Ecology
9	13-15	Section IV - Interactions
10	16-20	Section V - Communities and Ecosystems
11	16-20	Section V - Communities and Ecosystems
12	21-23	Section VI - Large Scale Ecology
13	21-23	Section VI - Large Scale Ecology
14		Open
15		<i>Final Exam</i>

**Note: Information contained in this syllabus was, to the best knowledge of the instructor, considered correct and complete when distributed for use at the beginning of the semester. The instructor reserves the right to make changes in the syllabus in collaboration with the class with reasonable notice to all concerned.*