

OGLALA LAKOTA COLLEGE
Course Syllabus for

Evolution (Biol 463)

Spring 2011

Instructor: Alessandra Higa
Office Hours: at the college center on Tuesday before class; at Piya Wiconi on Thursdays and Fridays.
Class meet: Tuesday from 1:00 - 4:00 pm (pictel HSCC2-PHCC)
Office: 605-455-6003
Fax: 605-455-2603
E-mail: ahiga@olc.edu

Course Description

Evolution (Biol 463): this course will present the history of the development of the theory of natural selection and evolution as first elucidated by Charles Darwin and Alfred Wallace. The concurrent work of Mendel will be discussed as well as more modern developments in areas of genetics, molecular biology, sociobiology, paleontology and anthropology.

Prerequisites and Credits

Ecology (Bio 223) or permission of the instructor. 3 Credits

Required Text(s)

- 1) Kardong, K. V. 2008. *An Introduction to Biological Evolution*. 2nd ed. McGraw-Hill. ISBN 978-0-07-305077-5.

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 any topic related to **evolution** (both micro- and macro-evolution of all types of organisms, including: molecular and microbial evolution, behavior, genetics, ecology, life histories, development, paleontology, systematics and morphology). 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/text compilation;
- 3) Write a scientific report (*see details below*)
- 4) Prepare a 15 minutes presentation.

Your reports should be written in scientific style (e.g. the *Journal of Evolutionary Biology* format; http://www.blackwellpublishing.com/jeb_enhanced/) with abstract, introduction, material and methods, results, discussion, and literature cited - including all the information sources cited in the text. The literature cited section at the end must provide 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 chapters and handouts, 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 evolutionary biology; (2) you will learn how to search for scientific information, analyze data 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 Including your presentation	30%	D = 60% - 69.9%
<i>Total</i>	100%	F = below 60%

Tentative Schedule

Week	Date	Chapter	Information
1	01/25		Introduction and Origin of Life
2	02/01	1 +	Evolution of Evolution + Phylogeny
3	02/08	2 and 4	Time and Emergence of Life
4	02/15	3 +	Heredity + Phylogeny
5	02/22	5 +	Diversity of Life + Phylogeny
6	03/01	6	Evidence of Evolution
7	03/08		<i>Midterm</i>
8	03/15	7 and 8	Selection and Variation: spice of life
9	03/22	9	Speciation
10	03/29		<i>Students presentation</i>
11	04/05	10	Co-evolution
12	04/12	11 and 12	Life History Strategies and Life in groups
13	04/19	13	<i>Spring Break</i>
14	04/26		Extinctions
15	05/03	14 and 15	Human Evolution
16	05/10		<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.