

BIOS 107, Evolution for Everyone

Section 1, MWF 11:00-11:50 PM, MOAUD, Fall, 2010

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Office hours (MO 339): MW 11:50-1:20, TH 9:30-12:30, or by appointment

Course Objectives: Beginning with core principles, evolutionary theory is explored from an integrative and interdisciplinary perspective, with topics ranging from the history of life to all aspects of humanity.

Texts: Blanchard KC Jr. 2009. Darwinian Conservatism: A Disputed Question. Imprint Academic, Exeter, UK (“Blanchard” below). Lane N. 2009. Life Ascending: The Ten Great Inventions of Evolution. WW Norton, New York (“Lane” below). Wilson DS. 2007. Evolution for Everyone. Delacorte Press, New York (“Wilson” below). Chapter readings from these texts are indicated by chapter number in the lecture schedule below.

Discussion sections: Each Friday’s class will be a discussion section, focusing on the review of the week’s material and the clarification of aspects that remain opaque.

Experimental modules: During some of the Friday discussion sections, students will participate in several experimental modules. These have been developed as part of the nationwide EvoS consortium led by David Wilson at Binghamton University (<http://evolution.binghamton.edu/evos>). The first module is about cultural variation from an evolutionary perspective. Students will learn about cultural variation by taking a survey called the Values Survey Module. The second module will use experimental economics games to study human social preferences. This involves a sequential “prisoner's dilemma” game in class and the results illuminate the benefits and pitfalls of cooperation. The final module involves the EvoS Evolution Survey, which will reveal attitudes toward the teaching of evolution at the beginning and the end of the course. For all three modules data from this class will be compared to other classes nationwide.

Quizzes: Each Friday’s discussion section will begin with a short quiz based on the week’s background reading and lectures. Quizzes will be taken electronically and results will be evaluated on the spot. Quiz results as well as student questions will provide a guide to the material requiring further review and clarification

Grades: Grades will be based on quizzes, class participation during the experimental modules and other discussion sections, and on the final exam.

Lecture schedule: see www.bios.niu.edu “course offering” “course notes” “Bios 107 section 1” for lecture notes each day (note that these notes are not archived so you must keep up with the pace of the course):

LECTURE	TOPIC	READING
1	Part I: Introduction to evolution for everyone: science and the scientific method; EvoS Survey	
2	Evolutionary theory: variation	Wilson 1-3
3	Discussion I	
4	Evolutionary theory: heritability	Wilson 4-6
5	Evolutionary theory: consequences	
6	Discussion II	
7	Evolutionary theory: correlates	Wilson 7-8
8	Evolutionary theory: summary	Wilson 9-11
9	Discussion III	
10	Introduction to evolution and the history of life	Wilson 17-20
11	Evolution and the history of life II	
12	Discussion IV	
13	Introduction to evolution and human society	Wilson 13-14
14	Evolution and society II	Wilson 21-22
15	Discussion V	
16	Part II: Evolution and the history of life: Origin of Life	Lane 1-2
17	Origin of Life II	
18	Discussion I	
19	Oxygen: the molecule that made the world	Lane 3
20	Oxygen II	
21	Discussion II	
22	Cells within cells I	Lane 4
23	Cells within cells II	
24	Discussion III	
25	Sex and death I	Lane 5, 10
26	Sex and death II	
27	Discussion IV	
28	History of life overview	
29	Part III: Evolution and Human Society	Blanchard, I, Intro, 1-3
30	A conflict of visions I	
31	Discussion I	
32	A conflict of visions II	Blanchard, I, 5,6,8,9
33	A conflict of visions III	
34	Discussion II	
35	Darwinian politics I	Blanchard, II, III
36	Darwinian politics II	
37	Discussion III	
38	Design arguments I	Blanchard, I, 7
39	Design arguments II	
40	Discussion IV	
41	Evolution and human society overview	
42	Course summary and overview; EvoS Survey	
43	Discussion V	