

BIOLOGY 4415 / 5415

EVOLUTION

Spring 2006: sequence # 6308 / 6320

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Lecture: Tuesday-Thursday, 10:50 –12:05 PM: LSC 101

Lab: Monday, 2:00-4:20 PM: LSC025

Office Hours: Tuesday and Thursday, 2:00-5:00 PM; or by appointment

Course Web Page: <http://faculty.uca.edu/~benw/biol4415/>

Prerequisites: Biology 1440, 1441 (Principles of Biology I-II) and 2490 (Genetics)

UNIVERSITY POLICIES

You are encouraged to familiarize yourselves thoroughly with all policies listed in the Student Handbook, which is available for download on the WWW at <http://www.uca.edu/divisions/student/handbook/> These policies include but are not limited to:

Sexual harassment policy: Sexual harassment by any faculty member, staff member, or student is a violation of both law and university policy and will not be tolerated at the University of Central Arkansas. Sexual harassment of employees is prohibited under Section 703 of Title VII of the Civil Rights Act of 1964. Sexual harassment of students may constitute discrimination under Title IX of the Education Amendments of 1972. The official definitions of sexual harassment, and the steps that one should take in the event of harassment, are available on-line at <http://www.uca.edu/divisions/admin/board/policies/511.html> Any incidents should be reported to the professor in charge of the class, or if that is not possible, to the department head or academic dean, or directly to the University's legal counsel.

Disabled students: The University of Central Arkansas adheres to the requirements of the Americans with Disabilities Act. If you need an accommodation under this Act due to a disability, contact the UCA Disability Support Services office in rm. 01A of the Student Center, by phone at 450-3135, by FAX at 450-5664, or on the Web at <http://www.uca.edu/divisions/student/disability/> .

Statement on academic misconduct: The University defines academic misconduct as follows:

1. In connection with the taking of, or in contemplation of the taking of any examination, any student who (a) knowingly discovers or attempts to discover the contents of an examination before the contents are revealed by the instructor; (b) obtains, uses, attempts to obtain or use any material or device dishonestly; or (c) supplies or attempts to supply to any other person any material or device dishonestly; or (d) during the course of an examination obtains or attempts to obtain unauthorized information from another student or from another student's test materials.
2. Any misrepresentation of academic work by a student as the product of their own study and efforts.
3. The unauthorized possession, taking, or copying of solutions manuals or computerized solutions for homework or research problems assigned by a professor and/or instructor.

In the event an instructor determines that a student has engaged in academic misconduct, the instructor will meet with the student and inform him/her of the action or sanction the instructor deems appropriate. In this course, that will generally be a grade of zero on any assignments involved in the offense.

Scholarships: All students on academic scholarships must be enrolled full-time (at least 12 hours) in order to receive their scholarships this fall. This includes students in their final year. Many individual scholarships also require that students complete a total of 15 hours each semester in order for the scholarship to be renewed. If you are on scholarship, please keep your scholarship requirements in mind when setting or making changes to your schedule. For more information, contact Marylynn Borengasser in Undergraduate Studies.

Inclement Weather Policy: If the weather is bad on a scheduled class day, check the UCA main website (<http://www.uca.edu/>), KCON (1230 AM) or KUCA (91.3 FM) radio, or local TV for announcements. If the campus is officially closed, classes will of course be canceled. If the campus isn't closed, then classes will be held as normal, but

use your own judgment in deciding whether to attend. Some students have to commute a long way and may not be able to reach campus safely. I expect everyone to make a reasonable effort to show up -- but don't risk your life, health, or property to get here! Severe weather counts as an excusable reason for absence; assignments that you miss due to bad weather may be prorated, postponed, or canceled at the instructor's discretion (see below).

COURSE POLICIES

Attendance: Attendance will not be taken after the first few meetings. You are presumed to be adults, responsible for the consequences of your own actions, and able to cope with the dire results of missing even the slightest fraction of this course. You cannot make up missed labs or exams in this course, but if you miss a lab or exam because of a medical or personal emergency, your grade will be prorated. Such an absence must be documented, if at all possible, by a note or other documentation from your doctor, dentist, car mechanic, arresting officer, parole board, etc. as the case may be.

Exams: There will be one midterm exam (100 pts.) and a final exam (200 pts.) The midterm will not be cumulative. The final exam will be cumulative, but will focus mostly on material from the second half of the course. Exam format will include mostly fill-in-the-blank, short answer, and short essay questions.

Labs: Yes, we do labs in this course! Handouts for each lab will be provided to you, together with instructions for completing the accompanying lab write-up that you will turn in for a grade. Each of these will be worth twenty points, for a total of 200 points.

Research Project: Students will be grouped into teams of four. Each team will work on writing a grant to request funding for a proposed independent, empirical, field-based or lab-based research project. Your write-up of this project will be worth 100 points. This project will be, as closely as possible, a duplicate of the process that professional scientists must go through when they need funding for a major research project. You will not actually have to do the research project itself, but you will have to write a serious research proposal as if you were going to write it. More information will be forthcoming on how to do this project.

Internet Resources: I use the World Wide Web (WWW) extensively in this course. The course WWW page is <http://faculty.uca.edu/~benw/biol4415/> Electronic versions of most of the course handouts will be available here, including this syllabus, practice problems, instructions for term papers and lab reports, and so on. Web versions of the PowerPoint electronic slide presentations that I use will also be here; this will enable you to review my slides at your own pace, as often as you like.

Grading:

Midterm exam	100 pts.
Final exam	200 pts.
Labs	200 pts.
Research proposal	100 pts.
Discussions, participation	100 pts.
TOTAL:	700 pts.

No extra credit or bonus points will be given, and there will be no curve. Letter grades will be assigned as follows:

700-630 pts. (90-100%)	A
629-560 pts. (80-89%)	B
559-490 pts. (70-79%)	C
489-420 pts. (60-69%)	D
419-0 pts. (0-59%)	F

DATES	LECTURE TOPICS	LABS
Jan. 12	Introduction; gettin' acquainted.	none
Jan. 17, 19	Roots of evolutionary thought	none
Jan. 24, 26	Darwin's life and work	Classification
Jan. 31, Feb. 2	The "Modern Synthesis"	Salute to William Smith
Feb. 7, 9	Rundown of genetics	Natural Selection I
Feb. 14, 16	Population genetics	Natural Selection II
Feb. 21, 23	Selection on quantitative traits	Quantitative Genetics
Feb. 28, Mar. 2	Sexual selection - EXAM March 2	Prisoner's Dilemma
Mar. 7, 9	Speciation	Cladistics I
Mar. 14, 16	More on speciation	Cladistics II
Mar. 21, 23	SPRING BREAK	
Mar. 28, 30	Biogeography	Cladistics III
Apr. 4, 6	Origins of complexity	Paleontology I
Apr. 11, 13	Evo-Devo	Paleontology II
Apr. 18, 20	Human Evolution I	Human Evolution I
Apr. 25, 27	Human Evolution II	Human Evolution II

FINAL EXAM: THURSDAY, MAY 4, 11:00 AM -1:00 PM.

OTHER CRITICAL DATES

(see <http://www.uca.edu/schedule/html/academiccalendar2.php>)

January 18, Wednesday — Change-of-course period ends. Last date to register, add classes, change from credit to audit or audit to credit

February 10, Friday — Final date to make application for graduation, if completing degree requirements at the end of the spring semester in May

March 8, Wednesday — Mid-term grade report date

March 18 - 26, Sat-Sun
Spring Break

March 31, Friday — Final date to officially withdraw from a Jan 12 - May 5 course or the university with a W grade

April 5 - 26 — Advance Registration

April 21, Friday — Final date to officially withdraw from a Jan 12 - May 5 course or the university with a WP or WF grade

April 28, Friday — Study Day

May 1 - 5, Mon-Fri — Final Examinations - day and night classes

May 6, Saturday — Spring Commencement