

Evolution

BIOL 415
TR 8:30AM - 9:45AM

Fall 2016

Required Textbook: Evolutionary Analysis, 5th edition by S. Freeman and J. C. Herron. Pearson Prentice Hall, (2014). ISBN 10: 0-321-61667-7; ISBN 13: 978-0-321-61667-8

Other Requirements: I-clicker

Textbook Companion Website: <http://www.pearsonhighered.com/herron>

Course Website: WebCampus: <https://webcampus.unlv.edu/>

Assignments, lecture notes, and additional readings will be announced during lecture and posted here.

Prerequisite BIO 300 (Principles of Genetics) or 304 (Molecular Genetics). Evolution builds upon some basic concepts presented in Genetics.

COURSE DESCRIPTION AND GOALS

Biology 415 is an introduction to evolutionary biology, and will focus on the processes that have been (and are currently) responsible for the generation and maintenance of biological diversity. The course covers the microevolutionary processes that occur within populations as well as species diversification and macroevolutionary patterns. The course is concerned with the theory underlying evolutionary biology, use of the scientific method, and interpretation of empirical data. The students should get a comprehensive understanding of (1) the breadth and scope of evolutionary biology, (2) the evidence for evolution, (3) evolutionary processes, and (4) evolutionary mechanisms.

COURSE POLICIES

Attendance. Attendance to lectures is mandatory. You have to attend the session of Biol 415 that you registered for!!! All class announcements (assignments, schedule changes, current events, readings, tips for exams, etc.) are made in the first few minutes of class. Short i-clicker quizzes will take place during each lecture. Experience shows that students who often miss class generally do not do as well as those who regularly attend lectures. Furthermore, my slides are mostly images and I expect the students to write down my explanations during the lectures to add to the slides. For this reason, if you try to study based on the slides without listening to the lectures, you will be faced with lots of figures without text that you need to understand on your own.

Extra Material. At the WebCampus site (see above) you will find important information such as the updated lecture schedule and instructions for completing assignments. This is an "evolving" site and changes weekly as I add material. Most, if not all, of the supplementary readings and resources for the course will ONLY BE AVAILABLE THROUGH THIS SITE. Many of these documents are posted in Adobe Acrobat Portable Document File (PDF) format. To read and print out PDF files you need Adobe Acrobat Reader, which you can download free at <http://get.adobe.com/reader/> .

Readings. Students are required to read the chapters of the textbook indicated on the course schedule. Additional reading materials for which the students are responsible will be announced during lecture and electronically posted on the course web site. Supplementary readings provide additional material not necessarily covered in class.

Electronic Mail. I will try to answer all e-mail messages regarding the course within 1 to 3 days. However, e-mail should not be viewed as the equivalent of office hours. I will only provide brief answers to specific, relatively simple questions via e-mail. Talk to me before or after class or during office hours for immediate and lengthy feedback.

Exams. There will be two midterm exams and a final exam; their dates are noted in the lecture schedule. Students who arrive late to class on an exam day will not be given additional time to finish the exam and

anyone arriving more than 15 minutes late may not take the exam. Final exam will be cumulative because many topics build on each other. Exams will challenge students to synthesize and use their knowledge of evolutionary biology to address questions in a critical way. ALL students are required to take ALL exams. Exam format may be a combination of some or all of the following types of questions: multiple choice, fill-in-the-blank, matching terms, short answer.

Make-up exams. NONE. Only under exceptional circumstances (see Religious and "Extracurricular" Holidays). If a student misses an exam because of a medical or personal emergency, he or she must provide **official, written notification of the reason for the absence** (by a physician, arresting officer, trial judge, etc.). A student must **IMMEDIATELY** e-mail or contact the instructor – **Prior, NOT after the exam**. The make-up exam will consist of different questions than the regular exam.

Assignments will be announced two weeks before the due date. Assignments are due **TYPED** and in both **HARD AND ELECTRONIC COPY** on the due date **before the class starts** (i.e., NOT in my mailbox or slipped under my office door). Students will be given a short quiz based on their assignment during the first fifteen minutes of class. **LATE ASSIGNMENTS WILL BE PENALIZED** 5 points every 24 hours, starting immediately after class on the due date.

In-class quizzes. Multiple choice questions will be given at each class. The quizzes are only tracked for attendance, and not for correctness. The answers will be submitted via **i-clickers only**. Students are responsible for bringing their own i-clickers. In-class quizzes will be helpful in preparing for the midterms and finals.

Register your i-clickers Register your i-clickers within WebCampus **by Sep 5th**. You will find the link to register in the course website at WebCampus. Do not register your clicker on iclicker.com: if you do, I will not be able to match your responses with your name and you will not receive credit.

Cheating. I maintain a zero-tolerance policy on cheating, which includes plagiarism. Bringing a fellow student's i-clicker is also considered cheating. There is no excuse for cheating; it causes unnecessary embarrassment and stress and raises serious ethical issues. Any student who is caught cheating will immediately receive an "F" for the course and will be reported to the Academic Misconduct department. See Academic Misconduct for additional comments on this most unpleasant subject.

Assessment. The final grade for the class will be calculated based on the following:

First exam	100 points
Second exam	100 points
Final exam	120 points
2 Assignments	30 points each
In-class quizzes	20 points (~1 each class)
TOTAL	400 points

NO EXTRA CREDIT OR BONUS POINTS WILL BE GIVEN (with small exceptions).

Letter grades will be assigned as follows. I do not expect to grade on a curve for this class:

A : 100 - 90%; B : 89.9 - 80%; C : 79.9 - 70%; D : 69.9 - 60%; F : 59.9 - 0%

UNLV POLICIES

Academic Misconduct — Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Student Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with

UNLV's function as an educational institution. An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the Student Academic Misconduct Policy (approved December 9, 2005) located at: <https://www.unlv.edu/studentconduct/student-conduct>.

Copyright — The University requires all members of the University Community to familiarize themselves with and to follow copyright and fair use requirements. **You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor defend you nor assume any responsibility for employee or student violations of fair use laws.** Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional information can be found at: <http://www.unlv.edu/provost/copyright>.

Disability Resource Center (DRC) — The UNLV Disability Resource Center (SSC-A 143, <http://drc.unlv.edu/>, 702-895-0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with a Disabilities Specialist at the DRC to discuss what options may be available to you. If you are registered with the UNLV Disability Resource Center, bring your Academic Accommodation Plan from the DRC to the instructor during office hours so that you may work together to develop strategies for implementing the accommodations to meet both your needs and the requirements of the course. Any information you provide is private and will be treated as such. To maintain the confidentiality of your request, please do not approach the instructor in front of others to discuss your accommodation needs.

Religious Holidays Policy — Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor within the first 14 calendar days of the course for fall and spring courses (excepting modular courses), or within the first 7 calendar days of the course for summer and modular courses, of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit: <http://catalog.unlv.edu/content.php?catoid=6&navoid=531>.

Transparency in Learning and Teaching — The University encourages application of the transparency method of constructing assignments for student success. Please see these two links for further information: <https://www.unlv.edu/provost/teachingandlearning>
<https://www.unlv.edu/provost/transparency>

Incomplete Grades — The grade of I—Incomplete—can be granted when a student has satisfactorily completed three-fourths of course work for that semester/session but for reason(s) beyond the student's control, and acceptable to the instructor, cannot complete the last part of the course, and the instructor believes that the student can finish the course without repeating it. The incomplete work must be made up before the end of the following regular semester for undergraduate courses. Graduate students receiving "I" grades in 500-, 600-, or 700-level courses have up to one calendar year to complete the work, at the discretion of the instructor. If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade.

Tutoring and Coaching — The Academic Success Center (ASC) provides tutoring, academic success coaching and other academic assistance for all UNLV undergraduate students. For information regarding tutoring subjects, tutoring times, and other ASC programs and services, visit <http://www.unlv.edu/asc> or call 702-895- 3177. The ASC building is located across from the Student Services Complex (SSC). Academic success coaching is located on the second floor of the SSC (ASC Coaching Spot). Drop-in tutoring is located on the second floor of the Lied Library and College of Engineering TEB second floor.

UNLV Writing Center — One-on- one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 702-895-3908. The student's Rebel ID Card, a copy of the assignment (if possible), and two

copies of any writing to be reviewed are requested for the consultation. More information can be found at: <http://writingcenter.unlv.edu/>.

Library Resources — Students may consult with a librarian on research needs. For this class, the subject librarian is https://www.library.unlv.edu/contact/librarians_by_subject. UNLV Libraries provides resources to support students' access to information. Discovery, access, and use of information are vital skills for academic work and for successful post-college life. Access library resources and ask questions at <https://www.library.unlv.edu/>.

Rebelmail — By policy, faculty and staff should e-mail students' Rebelmail accounts only. Rebelmail is UNLV's official e-mail system for students. It is one of the primary ways students receive official university communication such as information about deadlines, major campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the university. Students' e-mail prefixes are listed on class rosters. The suffix is always **@unlv.nevada.edu**. **Emailing within WebCampus is acceptable.**

Final Examinations — The University requires that final exams given at the end of a course occur at the time and on the day specified in the final exam schedule. See the schedule at: <http://www.unlv.edu/registrar/calendars>.

SAMPLE

TENTATIVE SCHEDULE

	Date (Day)	Topic	Chapter
1	Aug 30 (Tu)	Introduction and Evolutionary thinking	Ch 1
2	Sep 1 (Th)	The Pattern of Evolution	Ch 2
3	Sep 6 (Tu)	Natural Selection	Ch 3
4	Sep 13 (Th)	Natural Selection	Ch 3
5	Sep 20 (Tu)	Genetic Variation	Ch 5
6	Sep 22 (Th)	HWE	Ch 6
7	Sep 27 (Tu)	Selection	Ch 6
8	Sep 29 (Th)	Selection	Ch 6
9	Oct 4 (Tu)	Review	
	Oct 6 (Th)	First Exam	
10	Oct 11 (Tu)	Mutation, Migration, Drift	Ch 7
11	Oct 13 (Th)	Drift, Non-random mating	Ch 7
12	Oct 18 (Tu)	Linkage and Sex	Ch 8
13	Oct 8 (Th)	Quantitative Genetics	Ch 9
14	Oct 13 (Tu)	Quantitative Genetics	Ch 9
15	Oct 18 (Th)	Assignment: Adaptation	Ch 10
16	Oct 20 (Tu)	Assignment: Evolutionary Trees	Ch 4
17	Oct 22 (Th)	Evolutionary Trees	Ch 4
18	Oct 25 (Tu)	Review	
	Oct 27 (Th)	Second Exam	
19	Nov 1 (Tu)	Sexual Selection	Ch 11
20	Nov 3 (Th)	Evolution of Social Behavior	Ch 12
21	Nov 8 (Tu)	Life Histories	Ch 13
22	Nov 10 (Th)	Mechanisms of Speciation	Ch 16
23	Nov 15 (Tu)	Evolution and Human Health	Ch 14
24	Nov 17 (Th)	Genome Evolution	Ch 15
25	Nov 22 (Tu)	Review	
	Nov 24 (Th)	Thanksgiving Recess	
26	Nov 29 (Tu)	History of Life on Earth	Ch 17,18
27	Dec 1 (Th)	Human Evolution	Ch 20
28	Dec 6/8	Study week	
	TBD	Final Exam 8a.m. – 10a.m.	

SAMPLE