



BIOLOGY 197

PRINCIPLES OF MODERN BIOLOGY II

Syllabus Spring 2016, Ver. 1.0* (19 January 2016)

LECTURE: Tu, Th 2:30-3:45
PM, SEB 1311

Course Description

Organismal biology in an evolutionary context, including biodiversity, structure and function, reproduction, and physiology of major groups of organisms, from viruses to mammals.

PRINCIPLES OF MODERN BIOLOGY II, BIOL 197, is an intensive course in majors biology in which you will acquire a firm conceptual understanding of the diversity of cellular life and the evolutionary origins of that life. A requirement for students majoring in biology, this course provides the necessary foundation (with BIOL 196) for a great many upper division courses in the major. For this reason it is essential that you be prepared for every class and that you allot sufficient time for study. This course is a "learning partnership" between you and the instructional staff. We will do everything we can to make this a stimulating and rewarding experience, but the ultimate responsibility for your success in learning the material is yours. To facilitate this process, we strongly suggest that class members complete the assigned text and/or reserve readings before each subject is discussed in class.

**Please note: this Syllabus is subject to change with respect to details of lecture dates and discussion material, examination dates and readings. If there are changes, the instructor will make every reasonable effort to inform class members promptly.*

Specific Course Learning Outcomes:

Upon successful completion of this course, students should be able to:

- Explain how natural selection and other evolutionary processes can lead to speciation.
- Discuss the major evolutionary trends in protists, plants, invertebrates, and vertebrates.
- Accurately interpret evolutionary relationships through the use of phylogenetic trees.
- Explain the life cycles and ecological importance of fungi and their symbiotic associations.
- Identify the elements of stem, root, and leaf structure in plants.
- Discuss the physiology and associated anatomy of (i) water transport and transpiration, and (ii) nutrition and photosynthate transport in plants.
- Describe key phases of animal development and reproduction.
- Explain how diverse structures in invertebrates and vertebrates accomplish the functions of digestion, circulation, excretion, communication, and regulation.
- Discuss ecological concepts in the areas of life history, reproduction, growth, population structure, community and ecosystem structure and function.
- Integrate their prior knowledge of cellular structure and function with the concepts covered in this course to develop a unified understanding of biology.

Assessment of Course Learning Outcomes: Assessment of these learning objectives will be based on lecture exams and laboratory practical exams, quizzes and assignments.

Required Text & Readings: *Principles of Life D. Hillis et al. (2nd edition, 2014)*

Available in the UNLV Bookstore or elsewhere. [also for BIOL 196] Some additional (optional) readings are available through Webcampus.

COURSE POLICIES

Lecture Exams: The lecture exams will consist of multiple-choice and short answer essay questions based upon lecture material, readings from the text and reserve readings. Attendance at exams is **required** and an absence will result in a zero unless you provide the instructor with reasonable justification for your absence **before** (or at the latest on the day of) the exam, as approved by the instructor, and also provide written documentation of the reason for your absence on official letterhead of a physician or legal authority within one week after the exam date. In either case, examinations must be completed on a “make-up” basis before the regular exams have been returned to the class (typically the week after the normal exam time).

PLEASE NOTE: All assigned readings and all lecture/discussion material presented in class will be subject to examination.

YOU MUST PROVIDE one or more PENCILS for each of your scheduled exams.

Computer Accounts: The UNLV Student Technology Fee supports numerous computer labs on campus with hundreds of computers and a large selection of available software. For a complete listing, please see: <http://oit.unlv.edu/labs-classrooms/>.

Grading: Final grades are based on the combined numerical scores from the laboratory and lecture. Letter grades will not be assigned to individual examinations or quizzes. To evaluate your performance as the semester progresses, use the following standard “tens system” as a rough indicator:

90 - 100%	A
80 - 90%	B
70 - 80%	C
60 - 70%	D
< 60%	F

Plus and minus grades may be applied by dividing each of the above ranges into thirds. ***Note that these cutoffs are subject to change at the discretion of the instructor; any “curve” applied will only improve letter grades relative to these numeric values. Although a curve may be applied to improve grades, once applied, no further “rounding-up” of numerical scores will occur.***

THERE WILL BE NO EXTRA CREDIT OR COMPENSATORY CREDIT OPPORTUNITIES IN THIS COURSE; GRADES WILL BE ASSIGNED ACCORDING TO THE EVALUATION SYSTEM DESCRIBED IN THIS SYLLABUS.

Grade distribution:

First two lecture exams (20% each) = 40%
Final examination, *comprehensive* = 30%
Laboratory exercises and practical exams = 30%

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.

Laboratory: Attendance is required at all laboratories and will be taken during every lab session by the lab instructor. Excused absences are granted only for medical/legal reasons that are validated in writing by a physician/legal authority on official letterhead and approved by the lab instructor. Additional laboratory policies will be provided by the laboratory instructors, including those which provide for your health and safety.

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>.

Official Extracurricular Activity: Students who represent UNLV at any *official* extracurricular activity shall have the opportunity to make up assignments and exams, but the student must provide official written notification to the instructor *no less than one week before* the missed class(es)/laboratories/exams.

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/>.

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.

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>.

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>

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.**

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/>.

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>.

University Classroom Etiquette: The University requires that every student behave in a manner that reflects consideration for and respect of fellow students and perhaps the instructor. The behaviors listed below will subject first-time offenders to public reprimand, which may include some reasonably good-hearted admonishment and resulting embarrassment. Serial offenders face stiffer consequences, which may include administrative withdrawal from the course.

- Cell phone usage, text messaging, browsing the Internet and e-mailing
- Talking during lecture except for Q&A
- Newspaper/magazine reading

- Consumption of food or beverages in the classroom (water OK)
- Late or disruptive arrival
- Early or disruptive departure
- MP3 Player use
- Any other action that compromises the classroom learning environment (instructor discretion)

**THANK YOU FOR MAKING THE CLASSROOM AN INTELLECTUALLY
STIMULATING ENVIRONMENT!**

SAMPLE

Schedule of Classes

<u>Week</u>	<u>Dates</u>	<u>Subjects</u>	<u>Chapter</u>
1	19 Jan	Intro to course, History of life on earth	18
	21 Jan	History of life on earth	18
2	26 Jan	Mechanisms of evolution	15
	28 Jan	Speciation and phylogenies	16, 17
3	2 Feb	Prokaryotes	19
	4 Feb	Eukaryote origins	20
4	9 Feb	Evolution of land plants	21
	11 Feb	Fungi	22
5	16 Feb	Plant morphology and anatomy	24
	18 Feb	Plant nutrition & transport	25
6	23 Feb	Exam I	
	25 Feb	Plant growth & development	26
7	1 Mar	Plant reproduction	27
	3 Mar	Plant responses to environment	28
8	8 Mar	Animal origins & body plans	23
	10 Mar	Animal basic functions	29
9	15 Mar	Animal reproduction	37
	17 Mar	Animal hormones	35
<i>21 March – 26 March: Spring Break!!</i>			
10	29 Mar	Nerves & sensory systems	34
	31 Mar	Muscles & skeletons	33
11	5 Apr	Exam II	
	7 Apr	Animal breathing	31
12	12 Apr	Animal circulation systems	32
	14 Apr	Animal nutrition & water balance	30, 36
13	19 Apr	Animal behavior	40
	21 Apr	Intro to Ecology & populations	42
14	26 Apr	Species interactions	43
	28 Apr	Community ecology	44
15	3 May	Global ecosystems	45
	5 May	Biogeography	41

Final Exam - Thursday, 12 May, 3:10 – 5:10 PM