

BIOLOGY 111G/L
NATURAL HISTORY OF LIFE (w/ Lab)

Instructor: Stan Carlson, Associate Professor
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Office Hrs.: MW 12:40–1:40pm, 5:30–6:30pm
TTh 11:15–12:00pm, 3:45–5:00pm

Class: MW 9:55–11:10am (Class)
MW 11:20–12:35am (Lab)
August 23–December 13, 2006
Room MH 110

Text: Basic Concepts in Biology, 6th Ed. Starr, 2006. Brooks/Cole.
Majors: Biology: Concepts and Applications, 6th Ed. Starr, 2006. Brooks/Cole.

Overview: Biology 111G/L, the natural history of life, is a 4 credit lecture/discussion/lab course that provides an introduction to the major processes and concepts in biology. (Biology 211G/L, the second course in the series, covers cellular and organismal biology.) The classroom component (Biol 111G) surveys the scientific method, cells & cell division, genetics, evolution, biological diversity, and basic ecology. A lecture followed by class and group discussions will be emphasized. A research paper and an oral report are required (see below). WebCT will be used as an enhancement tool for the course. The laboratory component (Biol 111L) provides practical experiences in each sub-discipline of the course.

Expected Outcome: The student will appreciate and understand major biological processes, including cell division, genetics and evolution, the great diversity of organisms that has resulted from evolutionary history, interactions of organisms within the biosphere, and human impacts on these interactions.

Assessment: An evaluation of learning based on classroom activities (lectures, discussions, videos, tests, reports, labs, etc.) will be integrated into the grading system of the learning objectives (see below). The assessment outcome will provide feedback to help in the ongoing development of teaching techniques and will *not* be used for grading purposes. An outcomes assessment technique using grade-based learning goals and specific objectives may also be used.

Learning Goals:

1. *Knowledge:* Students will be able to define key terms in the field of general biology. The assessment will consist of defining terms and answering recognition questions on quizzes and tests; some lab components will also apply (10–15% of grade).
2. *Comprehension:* Students will be able to describe, explain, and interpret major concepts in general biology as presented in class and in the text. The assessment will consist of multiple choice and short answer questions on major tests, and classroom discussions of reading assignments (10–15% of grade).

3. *Application*: Students will be able to use fundamental biological knowledge and concepts in multiple settings. The assessment will consist of multiple choice and short answer questions on major tests, and some components of lab assignments (15–20% of grade).
4. *Analysis*: Students will be able to work general biology lab exercises and solve word problems. The assessment will consist of lab assignments and word problems on major tests (15–20% of grade).
5. *Synthesis*: Students will be able consolidate biology-related research findings from several sources into a coherent whole. The assessment will consist of a written research paper, an oral presentation, and small group discussions (20–25% of grade).
6. *Evaluation*: Students will be able to critique issues related to biology based on available objective data. The assessment will consist of small group discussions and in-class reports, the conclusion section of the research paper, and essay questions on major tests (5–10% of grade).

Students are expected to:

- Attend all scheduled class and lab sessions and arrive on time
- Be well prepared for all classroom activities
- Participate appropriately in classroom discussions and lab activities
- Complete all assignments on time
- Show interest, have fun, and work hard!

The instructor will:

- Be on time and well prepared for each class and lab session
- Facilitate activities to enhance the students' understanding and appreciation of biology
- Provide opportunities inside and outside of class for questions and clarification
- Be available during office hours on a dependable basis
- Be fair and clear in grading practices and treatment of all students

Evaluation and Grading:

Tests/Quizzes	40% (5 @ 8% each)
Research Paper	20% (5% draft, 5% oral, 10% final)
Journal	15% (5% draft, 10% final)
<u>Lab Exercises</u>	<u>25% (and grade in BIOL 111L)</u>
Total	100%

A = 90–100%	B = 80–89%
C = 70–79%	D = 60–69%
F = below 60%	

Plus/minus modifiers will be used for final scores within one percentage point of the next closest letter grade.

The 4 major tests (each worth 8% of your grade) will be a mixture of recognition questions (multiple choice, matching, etc.), definitions, short answer questions, and at least one essay question. Except under extreme circumstances (e.g., illness or death in the immediate family), there will be *no* make-up of major tests. Tentative test dates are given in the schedule below. Test #4 will be given during finals week. In addition, vocabulary quizzes will be given covering each chapter; the average of the quizzes will count 8% of your final grade.

Each student will write a research paper on any topic of interest in the field of biology (a handout with more detail will be provided on web site). It must be based on at least 5 reference sources, at least 3 of which should come from an online magazine database (e.g., ProQuest). The paper will be 1500–1800 words long, written in your own words, and typed (using a word processor). The format will follow APA style with respect to documenting references and general formatting. An outline of the paper is due October 11. A draft of the paper (worth 5% of your grade) is due October 23. The final paper (worth 10% of your grade) is due November 20. A copy of each reference must be included with the final paper. You will present a 6–8 minute oral report (worth 5% of your grade) based on your research paper; these presentations will take place during the last scheduled regular class period (December 6).

Each student will create and maintain a chronological journal detailing your efforts to learn the course material. Daily entries should be made. You have the choice of maintaining your journal electronically (e.g., as an MS-Word document) or on paper (e.g., in a spiral binder). Due dates for the midterm draft (5% of your grade) and final version (10% of your grade) are given in the schedule below. Your journal will include four components: material studied, questions & answers, self reflection, and practice quizzes. A handout describing the journal in more detail will be provided on the web site.

Students are expected to be *on time* and attend all scheduled class and lab meetings. Each *unexcused* absence will result in the loss of 1 percentage point from your final grade. You will be expected to participate in the class discussions; these will provide an opportunity to explore your understanding of the subject matter and present your viewpoints in an informal setting. Come *prepared* to discuss the assigned material and readings.

Lab exercises will be handed out and discussed before each lab session. Each exercise will be due at the beginning of the next class after the scheduled completion (unless otherwise announced); late labs will receive a 10% grade reduction. There will be *no* make-up of lab exercises.

THE LAST DAY TO DROP A COURSE IS TUESDAY, OCTOBER 17. THE LAST DAY TO WITHDRAW FROM THE COLLEGE IS FRIDAY, NOVEMBER 17. OTHER IMPORTANT DATES ARE LISTED IN THE FALL 2006 SCHEDULE OF CLASSES.

TENTATIVE CLASS SCHEDULE

WEEK	DATES	ASSIGNMENT/TOPIC/ACTIVITY
1	Aug. 23	<i>Introduction</i> ; Chapter 1– invitation to biology <i>Lab #1</i> – scientific method
2	Aug. 28, 30	Chapter 1; Chapter 4– how cells are put together <i>Lab #2</i> – biodiversity; <i>Lab #3</i> – microscopy
3	Sept. 4, 6	<i>Labor Day Holiday (Mon.)</i> Chapter 4; Chapter 8– how cells reproduce <i>Lab #4</i> – cells
4	Sept. 11, 13	Chapter 9– meiosis & sexual reproduction; Chapter 10– observing patterns in inherited traits <i>Lab #5</i> – mitosis & meiosis studies; <i>Lab #6</i> – mitosis & meiosis challenge
5	Sept. 18, 20	Chapter 10; Chapter 11– chromosomes & human genetics <i>Lab #7</i> – blood typing; <i>Lab #8</i> – Mendelian genetics
6	Sept. 25, 27	<i>Test Review</i> TEST #1 (Wed.– chapters 1, 8, 9, 10, 11) Chapter 16– processes of evolution <i>Lab #9</i> – microevolutionary thought & microevolution
7	Oct. 2, 4	Chapter 16; Chapter 17– evolutionary patterns, rates, & trends <i>Lab #10</i> – speciation & cladograms
8	Oct. 9, 11	<i>Fall Break (Mon.)</i> Research Paper Outline Due (Wed.) Chapter 17; Chapter 18– the origin & early evolution of life <i>Lab #11</i> – fossils & macroevolution
9	Oct. 16, 18	Chapter 18; <i>Test Review</i> TEST #2 (Wed.– chapters 16, 17, 18) Chapter 19– prokaryotes and viruses
10	Oct. 23, 25	Draft Journal Due (Mon.) Chapter 19; Chapter 20– the simplest eukaryotes: protists & fungi <i>Lab #12</i> – prokaryotes; <i>Lab #13</i> – protists
11	Oct. 30, Nov. 1	Draft Paper Due (Mon.) Chapter 20; Chapter 21– plant evolution <i>Lab #14</i> – fungi; <i>Lab #15</i> – trees: creating a dichotomous key
12	Nov. 6, 8	Chapter 21; <i>Test Review</i> TEST #3 (Wed.; chapters 19, 20, 21) Chapter 22– animal evolution: the invertebrates
13	Nov. 13, 15	Chapter 23– animal evolution: the vertebrates <i>Lab #15</i> – animal kingdom
14	Nov. 20, 22	<i>Thanksgiving Holiday (Wed.)</i> Chapter 24– plants & animals: common challenges Final Paper Due (Mon.)
15	Nov. 27, 29	Ecology & Biodiversity issues– sections 26.7 (39.7), 26.8 (39.8), 26.9 (39.9), 27.12 (40.12), 27.13 (40.13), 28.3 (41.3), 28.9 (41.9), 29.2 (42.2), epilogue Film: <i>Web of Life</i>
16	Dec. 4, 6	Ecology & Biodiversity issues; <i>Test Review</i> Oral Reports (Wed.)
17	Dec. 11	TEST #4 (Mon., 9:00–11:00AM; chapters 22, 23, 24, ecology & biodiversity sections); Final Journal Due!

Statement Regarding Academic Misconduct:

Any student found guilty of academic misconduct shall be subject to disciplinary action. Academic misconduct includes, but is not limited to, the following actions. CHEATING, PLAGIARISM, UNAUTHORIZED POSSESSION OF EXAMINATIONS, RESERVE LIBRARY MATERIALS OR LABORATORY MATERIALS, UNAUTHORIZED CHANGING OF GRADES ON AN EXAMINATION, INSTRUCTOR'S GRADE BOOK OR GRADE REPORT, NONDISCLOSURE OR MISREPRESENTATION IN FILLING OUT APPLICATIONS OR OTHER COLLEGE RECORDS. The following disciplinary actions and sanctions may be imposed for any of the above infractions of regulations, disciplinary probation, disciplinary suspension, dismissal, expulsion.

Americans with Disabilities Act (ADA):

If you have, or believe you have, a disability and would benefit from any accommodation(s), you may wish to register with the Student Services Office on the first floor of Martinez Hall. All medical information will be treated confidentially.

After you have registered, please make sure that your instructors receive a copy of the accommodation memorandum from Student Services within the first two weeks of class. It will be your responsibility to inform your instructors or the office of Student Services (in a timely manner) if the services/accommodations provided are not meeting your needs.

If you have a condition that may affect your ability to exit safely from the premises in an emergency or that may cause an emergency during class, you are encouraged to discuss any concerns with Ms. Irene Lutz, Campus Student Services Officer at 287-6629, or with your instructor(s).

Feel free to call Ms. Lutz at the number above or the NMSU Director of Institutional Equity, at 505/646-3635 with any questions about the Americans with Disabilities Act (ADA), and/or Section 504 of the Rehabilitation Act of 1973.

Disclaimer:

The instructor, at his/her discretion, may modify this syllabus to meet the needs of a particular class of students. Adequate notice will be given should any change to the syllabus be needed.

Attendance and Student Performance:

Students are expected to attend regularly all classes for which they are registered. When the number of absences is excessive and hinders and student's progress – normally, for a standard term, that would mean **more than three consecutive absences or five cumulative absences*** – the instructor may recommend termination from the class.

Based upon the recommendation of the instructor, and with the concurrence of the Campus Academic Officer and the Campus Student Services Officer, a student will be dropped for persistent absences or for persistent failure to complete class assignments. Similarly, a student may be dropped for behavior that interferes with the educational environment of the class. Any student who has been dropped has the right to appeal through the Student Academic Grievance Policy (see the *Student Handbook*).

*** The number of absences will be adjusted proportionally to the number of class meetings**