

BIOLOGY 3: Introduction to Biology

Los Angeles Mission College

Spring 2007

Instructor:

Angela Echeverri, Ph.D.

Contact at:

Phone: 818-364-7704 (Office)

818-364-7744 (Lab)

e-mail: angelaecheverri@yahoo.com

Office Hours:

Monday & Wednesday: 12:00-12:30 pm

or by appointment

Held in INST-2016

Section 3390:

Lecture: Thu 5:25-6:50 pm (INST-2018) and Sat 8:00-9:25 am (INST-2016)

Lab Sat 9:30 am-12:40 pm (INST-2016)

Credit: 4 Units (UC:CSU)

Prerequisites: None

Advisory: English 28 or ESL 8

Course Description:

This is a comprehensive, introductory level biology class that will introduce students to the scientific study of living organisms. Specific topics covered will include chemistry, cell structure and function, metabolism, genetics, diversity, animal form and function, disease processes, evolution, and ecology. Students will learn to identify the unifying themes found throughout the living world and to understand the biological importance of differences among species and individuals. The latter part of the lecture will concentrate on human organ systems: their structure, function, and important diseases. The use of the scientific articles and the internet as a valuable source of current information will be emphasized. During the laboratory portion of the course, fundamental concepts will be reinforced and students will develop important skills that include: measuring, graphing, record keeping, interpretation of experimental results, and the use of microscopes and other equipment used in biological research.

Required Materials:

1. **Biology, Concepts and Connections.** 2006. Fifth Edition. Campbell, Reece, Taylor, and Simon.
2. **Symbiosis: The Benjamin Cummings Custom Laboratory Program for the Biological Sciences for Biology 3 at Los Angeles Mission College.** 2007.
3. **Biology 3 Handouts, 2003:** Echeverri. Includes laboratory report forms for all lab experiments performed.
4. **Scantron Forms:** Will need 5 forms (882-ES) and number 2 pencil for lecture exams.

Evaluation of Student Performance:

Best 3 out of 4 Midterm lecture exams (100 points each)	300
Final lecture examination	200
Laboratory final examination	100
Laboratory reports	200
Quizzes	50
Article Review	100
Laboratory skills & participation	50
TOTAL	1000

Grade Scale:

A: 90% or better B: 80-89% C: 70-79% D: 60-69% F: 59% or less

Important: No Make-up exams or laboratories will be given!

If you miss a midterm lecture exam, it will be dropped as your lowest exam.

You will be allowed to miss one laboratory without penalty. Additional absences may affect your grade.

Attendance is mandatory and will affect your grade. Schedule all travel and personal plans accordingly. If you have a conflict, remember this course is offered every semester.

Additional Information

- **Lecture Exams:** Will consist of multiple choice (about 80%), short-answer, matching, and essay questions. Lowest midterm will be dropped. Final exam will be cumulative, but will focus on latter part of the course material.
- **Laboratory Exam:** There will be a group laboratory final.
- **Laboratory Reports:** Students will be required to fill out a laboratory report in which all questions, tables, charts, and graphs for each exercise are completed. All relevant data must be collected and carefully recorded during the laboratory period. Lab reports are due the following Saturday in which they are performed.
- **Quizzes:** Short quizzes will be given about once every week or two.
- **Article Review:** Detailed instructions will be provided by the instructor. Briefly, students will select and read a scientific article dealing with a topic in biology. Based on the article's findings, write a two page report (**in your own words**) that summarizes the findings and their importance (or lack thereof). Turn in a photocopy of the article with your report. **See schedule for due date.**
- **Laboratory Skills & Participation:** Based on preparation, attendance, completion of labs, lab safety, clean-up, teamwork, microscope care and usage, and appropriate use of equipment and supplies. You will be assigned a microscope for the semester and will be responsible for its proper use and maintenance. I will routinely inspect microscopes before, during, and after you use them.
Five points will be deducted from the 50 point total for each unexcused absence from the laboratory or each time your microscope is stored improperly.

Computer Resources:

I *strongly* suggest you regularly visit the following internet sites:

- Campbell Biology Website: <http://www.campbellbiology.com>

This site contains useful quizzes, study guides, and information that will make learning biology even more fun!

- Biology 3 Website at Mission College: <http://www.lamission.edu/lifesciences>

You will find my lecture notes, useful links, handouts, and much more at the click of your mouse!

Final Words of Advice

This will be an intense, demanding, and hopefully rewarding learning experience. Please keep in mind that we will cover a great amount of material during the semester. Therefore:

- Make every possible effort not to get behind in this course. Expect to study at least 2 to 3 hours for every hour of lecture.
- I suggest that you form study groups and take advantage of my office hours. If you need additional help, let me know as soon as possible.
- Come to the lectures and laboratories prepared. Read the chapters and laboratory exercises before class!

TENTATIVE CLASS SCHEDULE

Week	Date	Thursday (Lecture)	Date	Saturday (Lecture/Lab)
1	2/5	Chapter 1: Biology-Exploring Life	2/10	Chapter 1 (Continued) <i>Ex. 1: The Process of Scientific Inquiry</i> <i>Appendix: Tools for Scientific Inquiry</i>
2	2/15	Chapter 2: The Chemical Basis of Life	2/17	President's Day Holiday College Closed
3	2/22	Chapter 2: The Chemical Basis of Life	2/21	Chapter 3: The Molecules of Cells <i>Ex. 2: pH and Buffers</i>
4	3/1	Chapter 3: The Molecules of Cells	3/3	Chapter 4: A Tour of the Cell <i>Ex. 3: Microscope</i>
5	3/8	Chapter 4: A Tour of the Cell	3/10	EXAM 1: Chapters 1-4 <i>Ex. 4: Macromolecules</i>
6	3/15	Chapter 5: The Working Cell	3/17	Chapter 5: The Working Cell <i>Ex. 5: Enzymes</i>
7	3/22	Chapter 6: How Cells Harvest Chemical Energy	3/24	Chap. 7: Photosynthesis <i>Ex. 6: Respiration</i>
8	3/29	Chapter 8: Cellular Basis of Reproduction and Inheritance	3/31	EXAM 2: Chapters 5-7 <i>Ex. 7: Photosynthesis</i>
9	4/5	SPRING BREAK COLLEGE CLOSED	4/7	SPRING BREAK COLLEGE CLOSED
10	4/12	Chapter 8: Cellular Basis of Reproduction and Inheritance	4/14	Chapter 9: Patterns of Inheritance <i>Mitosis and Meiosis</i>
11	4/19	Chapter 9: Patterns of Inheritance	4/21	Chapter 10: Molecular Biology of the Gene <i>Genetics I</i>
12	4/26	Chapter 10: Molecular Biology of the Gene	4/28	EXAM 3: Chapters 8-10 <i>Genetics 2</i>
13	5/3	Chapter 21: Nutrition and Digestion	5/5	Chapter 21: Nutrition and Digestion <i>Lab 14: Digestion</i>
14	5/10	Chapter 22: Gas Exchange	5/12	Chapter 23: Circulation <i>Lab 15: Circulation</i>
15	5/17	Chapter 23: Circulation	5/19	EXAM 4: Chapters 21-23 <i>Lab 18: Fruits and Flowers</i>
16	5/24	Chapters 27: Reproduction □	5/26	Chapters 27: Reproduction LAB FINAL EXAM
17	5/31	Open Topic Lecture Review	6/2	LECTURE FINAL EXAM

FINAL LECTURE EXAM: SATURDAY, JUNE 2nd, 2007 8:00 to 10:00 AM.

Important Dates to Remember:

February 20: Last day to apply for a refund of registration and parking fees.

March 4: Last day to drop classes, without a "W" (no refund).

May 6: Last day to drop classes, with a "W" (no refund).

May 29-June 4, 2007: Final Exams

STUDENT LEARNING OUTCOMES

Lecture: Upon completion of this course the successful student should be able to evaluate and summarize a scientific article in biology, interpret data in chart and table format, and write a report using correct scientific terminology.

Means of Assessment: Article review

Laboratory: Upon completion of this course the successful student should be able to apply scientific method to conduct laboratory experiments, reporting and interpreting data correctly in table and chart format.

Means of Assessment: Selected Laboratory Reports, Quizzes, and Final Exam Questions