

Spring, 2013

BIOLOGY 101 General Biology I
Mondays, Wednesdays, and Fridays 9:30 am - 10:20 am
HHL1

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Office Hours: by appointment

E-mail is the best way to reach me. Please be sure to use your **chaminade.edu** account for all messages you send to me. I am unable to verify the identity of persons using other email accounts.

Textbook: Audesirk "Biology: Life on Earth with Physiology," 9th Edition.

Course Overview:

This course introduces basic biological principles: heredity, biotechnology, evolution, life diversity, ecology.

Course Goals:

1. To present how scientific method is used to gain knowledge.
2. To present some basic concepts and principles of biology.
3. To provide an opportunity to study organisms included in the botanical and zoological fields emphasizing Hawaiian flora and fauna.
4. To provide an educated appreciation for the incredible diversity of life on earth.
5. To gain some basic knowledge of the processes of our natural environment.
6. To increase awareness of the complex relationships among all living things and their non-living environment.

Objectives for Students: At the completion of the course, you will:

- ✓ Understand the basis of heredity.
- ✓ Understand the principles behind the multiple applications of modern biotechnology.
- ✓ Be capable of identify some representative flora and fauna, especially of Hawaii.
- ✓ Understand what Evolution is (and as importantly, what it is not).
- ✓ Understand ecological relationships between organisms and environments.

Lectures:

1. Lecture topics are listed in the course outline. Consult the outline for exam dates and holidays.
2. The instructor reserves the right to add, omit, or change the materials as she sees fit.

EXAMS, QUIZZES & GRADES:

1. All exams & quizzes will consist of multiple choice, true-false, and short essay questions. You will be graded on your ability not only to answer the question (some can be answered in several ways), but also in how effectively you can defend your answer/position using your knowledge of the subject & applying what you learned through the use of appropriate facts/examples.
2. If you are absent it is your responsibility to inform the instructor and to inquire about missed assignments, tests, etc. & to make these up on the day of your return to class. Otherwise this will be considered an unexcused absence & the work cannot be made up.
3. Separate grades will be given for lecture and laboratory.

The lecture grade will be determined in the following manner:

| | | |
|---|------------|-------------|
| 1 st lecture exam | 100 points | |
| 2 nd lecture exam | 100 points | A ≥90% |
| 3 rd lecture exam | 100 points | B = 80-89% |
| Cumulative Final Exam | 100 points | C = 70-79% |
| Quizzes/attendance and participation | 100 points | D = 60-69% |
| | | F below 60% |
| ----- | | |
| Total Possible | 500 points | |

Note: A missed exam can only be made up in case of an excuse deemed valid by the instructor. The exam may be different from the exam taken by the other students.

Class Policies:

Attendance is **mandatory** for each lecture and laboratory.

Students with special needs who meet criteria for the Americans with Disabilities Act (ADA) provisions must provide written documentation of the need for accommodations from the CUH Counseling Center (Dr. June Yasuhara; phone 735-4845) by the end of week three of the class, in order for the instructor to plan accordingly. Failure to provide written documentation will prevent your instructor from making the necessary accommodations. Please refer any questions to the Dean of Students and review the procedures at: http://www.chaminade.edu/student_life/sss/counseling_services.php.

Academic dishonesty including cheating, plagiarism, and other serious offenses will not be tolerated. Appropriate action will be taken according to the University policies.

BIOLOGY 101 General Biology I

Spring, 2013 Course Outline

| | | |
|----------------------|-----------------|---|
| Monday | 01/14/13 | Introduction |
| Wednesday | 01/16/13 | Atoms, Molecules and Life |
| Friday | 01/18/13 | Biological Molecules |
| Monday | 01/21/13 | No Class: Fr. Chaminade and Martin Luther King Day |
| Wednesday | 01/23/13 | Cellular reproduction |
| Friday | 01/25/13 | Cellular reproduction |
| Monday | 01/28/13 | Pattern of inheritance |
| Wednesday | 01/30/13 | Pattern of inheritance |
| Friday | 02/01/13 | DNA the molecule of heredity |
| Monday | 02/04/13 | Gene expression and regulation |
| Wednesday | 02/06/13 | Biotechnology |
| Friday | 02/08/13 | Biotechnology |
| Monday | 02/11/13 | EXAM 1 |
| Wednesday | 02/13/13 | Principle of evolution |
| Friday | 02/15/13 | Principle of evolution |
| Monday | 02/18/13 | No class: President Day |
| Wednesday | 02/20/13 | How populations evolve |
| Friday | 02/22/13 | The Origin of Species |
| Monday | 02/25/13 | The History of Life |
| Wednesday | 02/27/13 | The History of Life |
| Friday | 03/01/13 | Systematics, Seeking Order Amidst Diversity |
| Monday | 03/04/13 | Systematics, Seeking Order Amidst Diversity |
| Wednesday | 03/06/13 | Diversity of Prokaryotes and viruses |
| Friday | 03/08/13 | Diversity of Prokaryotes and viruses |
| Monday | 03/11/13 | Diversity of Protists |
| Wednesday | 03/13/13 | Diversity of Plant |
| Friday | 03/15/13 | Diversity of Plant |
| Monday | 03/18/13 | EXAM 2 |
| Wednesday | 03/20/13 | Diversity of Fungi |
| Friday | 03/22/13 | Animal Diversity (invertebrate) |
| SPRING RECESS | | NO CLASS |
| Monday | 04/01/13 | Animal Diversity (invertebrate) |
| Wednesday | 04/03/13 | Animal Diversity (vertebrate) |
| Friday | 04/05/13 | Animal Diversity (vertebrate) |
| Monday | 04/08/13 | Animal behavior |
| Wednesday | 04/10/13 | Animal behavior |
| Friday | 04/12/13 | Population growth and regulation |
| Monday | 04/15/13 | Population growth and regulation |
| Wednesday | 04/17/13 | Community Interactions |
| Friday | 04/19/13 | Community Interactions |
| Monday | 04/22/13 | How Do Ecosystems Work? |
| Wednesday | 04/24/13 | How Do Ecosystems Work? |
| Friday | 04/26/13 | Earth Diverse ecosystems |
| Monday | 04/29/13 | Conserving Earth Biodiversity |
| Wednesday | 05/01/13 | Conserving Earth Biodiversity |
| Friday | 05/03/13 | EXAM 3 |

BIOLOGY 101L General Biology Lab I

Wednesdays 2:30 pm-5:20 pm

Henry Hall Room L4

Lectures are accompanied by one laboratory period of 2 hours and 50 minutes per week. You will need to buy a lab coat for Bio 101L. These can be obtained from Heidi Harakuni in Wesselkamper Science Center room 115.

You will be given a **separate** grade for lab and lecture.
Your grade for Bio 101L will be determined as follows:

Exam #1 25%
Exam #2 25%
Lab team assignments: 40%
Participation: 10%

Lab Team Assignments:

Lab exercises will be conducted in randomly assigned teams of about 4 students. Assignments will consist of putting together PowerPoint presentations of the topic of the day. A student voting system will contribute to the grade. Voting will be done by e-mail from your **chaminade.edu** email account.

For each lab exercise, your team will use pictures and text to create a PowerPoint presentation that clearly and creatively:

1. Gives background information on the topic
2. Accurately explains how you performed the lab exercise
3. Describes the results of your efforts

You are encouraged to take a lot of photographs and include them in your PowerPoint presentations. You are also encouraged to use information from outside sources (Google, Wikipedia, etc.). Try to limit the photographs used in your presentations to ones that you have taken yourself but if you do include photographs from the internet please be sure to cite the sources.

You should use the follow criteria when evaluating the presentations:

- **Completeness:** Did the presentation address all aspects of the assignment?
- **Correctness:** Was the information presented accurate and correct based on what your team found?
- **Neatness:** Was the information provided in an organized, readable manner?
- **Creativity:** Was the information presented in a manner that you found interesting or unique?
- **Helpfulness:** Was the presentation helpful in conveying the information or explaining it to you?

Lab Exams:

There will be two lab exams. The second exam will not be cumulative and will be limited to the material covered since the first exam. I anticipate borrowing heavily from your team PowerPoint files to create the exams and recommend that you use them to study.

Tentative schedule for the laboratory exercises and field trips:

| | |
|---------------|--|
| 1/16/2013 | Introduction to microscopy |
| 1/23/2013 | Mitosis |
| 1/30/2013 | Microorganisms harnessed/culture |
| 2/6/2013 | DNA |
| 2/13/2013 | Foster Gardens |
| 2/20/2013 | Plant Anatomy/grocery botany/microscope plant tissue |
| 2/27/2013 | Exam 1 |
| 3/6/2013 | Manoa Gardens |
| 3/13/2013 | Coconut Island |
| 3/20/2013 | Worm/Clam/Starfish Dissection |
| 3/27/2013 | Pig dissection? Microscope animal tissues |
| Spring recess | |
| 4/3/2013 | Whale watching |
| 4/10/2013 | Aquarium |
| 4/17/2013 | Exam 2 |
| 4/24/2013 | Zoo |