

Biology 101 – General Biology

Fall 2016

Instructor: M. McDermott (mindy.mcdermott@chaminade.edu)
Office Hours: By appointment or via email
Course Location: Henry Hall, Room L4
Course Meeting Times: MWF, 09:30AM – 10:20AM

Welcome. This course introduces basic biological principles of the cellular basis of life, heredity, biotechnology, evolution, life diversity, and the future of biology. Biology 101 is a 3-credit introductory biological science course for those students desiring to fulfill credits leading to a non-science bachelor's degree at Chaminade University. Concurrent registration in Biology 101 Lab is recommended to fulfill a lab science requirement.

Readings. Book: Audesirk et al. Biology: Life on Earth (11th edition). You will also receive some printed and on-line materials during the semester that you will be expected to read. Attending class each scheduled day is very important. Exams will heavily emphasize material covered in class.

Exams and Grades. Grades will be based on exams (3 @ 25% each), along with homework assignments and quizzes that are given out at various times during the semester (25%). The exams will have multiple choice, true or false, and short answer questions. Missed exams will NOT be made up unless you have a valid medical excuse, or have made an arrangement with me *ahead of the time scheduled for the exam*. In the event of illness, a doctor's note will be expected. With an excused absence, missed quizzes must be made up within 2 class periods to be counted. Late homework will be penalized 20% of the possible points for each day late. Final grades will be assigned as follows: A: 90 - 100%; B: 80 – 89%; C: 70 – 79%; D: 60 – 69%; F: 0 - 59%.

* Bonus points may be given at times (these points will be added to your earned points, but will not change the total points in this class).

Learning Outcomes. At the conclusion of this course, students will be able to:

- Understand the process of science
- Describe and utilize the scientific method
- Write a testable hypothesis for a given observation
- State the definition of a scientific theory and explain what distinguishes a scientific theory from the colloquial usage of the word “theory”
- Understand the basis of heredity
- Understand the chemical and physical principles that unite all life forms and of biological organization at the molecular, cellular, organism, and systems level
- Understand the principles of various techniques in modern biotechnology and be able to discuss the pros and cons of applications such as genetic engineering
- Understand what evolution is and our current understanding of the history of life
- Obtain an appreciation for life diversity
- Be familiar with taxonomy
- Discuss and identify ethical issues that new scientific technology raises

- Understand that progress in science depends heavily on the political, social, economic and cultural influences occurring within society at any given time
- Ask scientific questions of your world

General Course Schedule. (Subject to change)

Date	Topic
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Part One: The Basis of Life

8/22	Course Introduction
8/24	Process of Science
8/26	Elements and Molecules of Life
8/29	Cellular Structure and Function
8/31	Regulation of Cell Activity: Enzymes
9/2	Energy in Cells: Respiration
9/5	Labor Day (no class)
9/7	Energy in Cells: Photosynthesis
9/9	DNA & Chromosomes
9/12	Cell Division: Mitosis & Meiosis
9/14	Pattern of Inheritance: Mendelian Genetics
9/16	Pattern of Inheritance: Mendelian Genetics
9/19	From Genes to Proteins
9/21	Gene Expression and Regulation
9/23	Mutations and Genetic Disorders
9/26	Biotechnology
9/28	Biotechnology
9/30	EXAM I

Part Two: Evolution and Diversity

10/3	Origin of Species/Principle of Evolution
10/5	Origin of Species/Principle of Evolution
10/7	Genes in Populations
10/10	Discoverers' Day (no class)
10/12	History of Life
10/14	History of Life
10/17	Systematics, Seeking Order Amidst Diversity
10/19	Systematics, Seeking Order Amidst Diversity
10/21	Diversity of Prokaryotes and Viruses
10/24	Diversity of Animals (Invertebrates)
10/26	Diversity of Animals (Vertebrates)
10/28	Diversity of Plants
10/31	Species Interaction in Ecological Communities
11/2	Species Interaction in Ecological Communities
11/4	Exam II
11/7	Global Change & Threats to Biodiversity
11/9	Global Change & Threats to Biodiversity
11/11	Veterans' Day (no class)

Part Three: Where Can We Go with Biology?

11/14	Conservation Biology
11/16	Forensic Biology
11/18	Forensic Biology
11/21	Synthetic Biology
11/23	Synthetic Biology
11/25	Thanksgiving Recess (no class)
11/28	The Biological Future
11/30	The Biological Future
12/2	Last Day of Instruction
12/5-12/8	Exam III

Policy Reminders and Notices.

1. Attendance is mandatory for each lecture and laboratory. Attendance for the laboratory is especially important and unexcused absences for both lecture and laboratory will result in penalties to be determined by the instructor. It is university policy that any student who stops attending a course without officially withdrawing may receive a failing grade (SH, p. 34). Unexcused absences equivalent to more than a week of classes will lead to a grade reduction for the course.
2. Lectures will be given in Henry L-4. Closed toed shoes are required! If this rule is not complied with, you will be asked to leave.
3. No food or drinks are permitted in the laboratory at any time.
4. You are expected to have read and to abide by the “Student Rules of Conduct” which are available in your copy of Chaminade University’s Student Handbook (SH).
5. Use of music devices and cell phones is prohibited during all Natural Science and Mathematics classes at Chaminade *unless specifically permitted by your instructor*. Use of cell phones and music devices in laboratories is a safety issue. In addition, use of cell phones and music devices in any class is discourteous and may lead to suspicion of academic misconduct. Students who cannot comply with this rule will be asked to leave class and may be subject to laboratory safety violation fines. Please refer any questions to the Dean of Natural Sciences and Mathematics.
6. You may bring and use your laptops or tablets to lecture for the purpose of taking notes. However, on exam days, you may not use any electronic devices including smartphones, tablets, or laptops.
7. You may not record audio, images, or video in the classroom without expressed permission of the instructor.
8. The University provides a Chaminade email address for all students. Official Chaminade communications will be sent to the students’ Chaminade email address, and instructors will use only this email to communicate with students. It is the responsibility of the student to check their email frequently. Report email-related problems to the Helpdesk at 808-735-4855 or helpdesk@chaminade.edu.

9. You are encouraged to work together; however, all graded material must be your own. Cheating in the form of plagiarism (offering of work of another as one's own, SH, p. 33) and deception will not be tolerated and will negatively affect your grade. Because the University is an academic community with high professional standards, its teaching function is seriously disrupted and subverted by academic dishonesty. Such dishonesty includes, but is not limited to, cheating, which includes giving/receiving unauthorized assistance during an examination, obtaining information about an examination before it is given, using inappropriate/prohibited sources of information during an examination, altering answers after an examination has been submitted, and altering the records on any grade. (Refer to the Chaminade University of Honolulu (CUH) catalog for further information).

10. Title IX Declaration: Chaminade University of Honolulu recognizes the inherent dignity of all individuals and promotes respect for all people. Sexual misconduct, physical abuse, and/or psychological abuse will NOT be tolerated at CUH. If you have been the victim of sexual misconduct, physical abuse, and/or psychological abuse, we encourage you to report this matter promptly. As a faculty member, I am interested in promoting a safe and healthy environment, and should I learn of any sexual misconduct, physical abuse, and/or psychological abuse; I must report the matter to the Title IX Coordinator. Should you want to speak to a confidential source, you may contact the following: Chaminade Counseling Center at 808-735-4845, any priest serving as a religious confessor, or any ordained religious leader serving in the sacred confidence role.

11. Pursuant to several federal and state laws, including the Americans with Disabilities Act (ADA) of 1990, as amended by the ADA Amendments Act of 2008, and Section 504 of the Rehabilitation Act of 1973, all qualified students with disabilities are protected from discrimination on the basis of disability and are eligible for reasonable accommodations or modifications in the academic environment to enable them to enjoy equal access to academic programs, services, or activities. If a student would like to determine if they meet the criteria for accommodations, they should contact the Counseling Center at 808-735-4845 for further information. Students with special needs who meet criteria for the Americans with Disabilities Act provisions must provide written documentation of the need for accommodations from CUH Counseling Center (Dr. June Yasuhara, 808-735-4845) by the end of the third week of classes. Failure to provide written documentation will prevent your instructor from making necessary accommodations.