



5055 Santa Teresa Blvd
Gilroy, CA 95023

Course Outline

COURSE: BIOL C1000

DIVISION: 20

ALSO LISTED AS: BIO 10

TERM EFFECTIVE: Fall 2027

CURRICULUM APPROVAL DATE: 04/14/2026

SHORT TITLE: INTRO TO BIO

LONG TITLE: Introduction to Biology with Lab

<u>Units</u>	<u>Number of Weeks</u>	<u>Type</u>	<u>Contact Hours/Week</u>	<u>Total Contact Hours</u>
4	18	Lecture:	3	54 / 3 Units of Lecture
		Lab:	3	54 / 1 Units of Lab
		Other:	0	0
		Total:	6	108

Out of Class Hrs: 108.00

Total Learning Hrs: 216.00

COURSE DESCRIPTION:

This combined lecture and laboratory course provides the non-biology major with an introduction to living things and their environment. Students use experimentation and investigation to develop important critical thinking skills. Students learn about the process of science, the building blocks of life, the role and regulation of DNA, how populations change over time, the movement of energy within and between life forms, and how species interact with each other and their surroundings. By the end of the course, students will be able to apply an understanding of biological concepts to current issues and their impacts on society. Part 2: Also known as BIO 10.

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

L - Standard Letter Grade

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

- 02 - Lecture and/or discussion
- 03 - Lecture/Laboratory
- 04 - Laboratory/Studio/Activity
- 04B - Laboratory - LEH 0.75
- 05 - Hybrid
- 71 - Dist. Ed Internet Simultaneous
- 72 - Dist. Ed Internet Delayed
- 73 - Dist. Ed Internet Delayed LAB
- 73B - Dist. Ed Internet LAB-LEH 0.75

STUDENT LEARNING OUTCOMES/COURSE OBJECTIVES:

By the end of this course, a student should:

1. Apply the scientific method, including recognizing the elements of experimental design, gathering and analyzing data, and interpreting results.
2. Demonstrate scientific literacy by evaluating social, ethical, and equity issues connected to biological sciences
3. Describe how living things are made of smaller structures that work together to enable the organism to survive.
4. Compare how living things depend on each other and the physical environment as they interact to obtain, change, and exchange matter and energy.
5. Explain how the diversity of living things is the result of evolution of organisms through mechanisms such as heredity, random change, and natural selection.
6. Collaborate on laboratory investigations of the biological content using appropriate, safe methods and equipment

COURSE CONTENT:**LECTURE CONTENT:**

1. The scientific method and the process of science
2. Cellular chemistry and biochemistry
 - a. Atoms and bonding
 - b. Properties of water
 - c. Structure and function of biological molecules
3. Cell structure and function
 - a. Cells, membranes, and organelles
 - b. Prokaryotes versus eukaryotes
 - c. Transport across the cell membrane
4. Cellular metabolism
 - a. Enzyme structure and function
 - b. Photosynthesis
 - c. Cellular respiration
 - d. Fermentation
5. Cellular division
 - a. Prokaryotic binary fission
 - b. Eukaryotic cell cycle
 - c. Eukaryotic asexual reproduction (mitosis)
 - d. Eukaryotic sexual reproduction (meiosis)
6. DNA structure and function
 - a. DNA replication
 - b. Transcription and translation
 - c. Regulation of gene expression
 - d. The impact of mutations
 - e. The impact of biotechnology
7. Principles of heredity
 - a. Mendelian genetics
 - b. Non-Mendelian genetics
 - c. Application to human genetics
8. Principles of evolution
 - a. Evolutionary mechanisms
 - b. Evolutionary evidence
 - c. Speciation and classification
 - d. The effect of extinction
 - e. Survey of biodiversity across Domains
9. Principles of ecology
 - a. Biosphere and biomes
 - b. Population growth and regulation
 - c. Community interactions
 - d. Flow of energy and matter in ecosystems
 - e. Human interactions with the biosphere
 - f. Conservation biology and sustainability

COURSE CONTENT(CONTINUED):**LAB CONTENT:**

1. Process of science and experimental design
2. Personal protective equipment, care and safe use of laboratory equipment
3. Utilization of microscopy to visualize and identify cell structures
4. Cellular transport mechanisms
5. Energy cycling and metabolism
6. Cell division
7. Genetics and inheritance
8. Diversity of life
9. Evolution
10. Ecology

PART 2:

Curriculum Approval Date: 04/14/2026

REPRESENTATIVE TEXTBOOKS:

Concepts of Biology, Fowler, S., Wise, J., & Roush, R., OER: OpenStax, 2024 or a comparable textbook/material.

ISBN: 978-1-947172-03-6

Rationale: This OER textbook is listed in the CCN template. <https://openstax.org/books/concepts-biology/pages/1-introduction>

13 Grade Verified by: Publisher

Yuh, et al. Biology 10 Laboratory Manual. Updated annually. (Locally developed lab manual)

Hoefnagels, M. (2021). Biology: The Essentials. 4th ed.: McGraw Hill.

Taylor, M., Simon, E., Dickey, J., & Reece J. (2020). Campbell Essential Biology. 7th ed.: Pearson.

Lab Manual: Bres, M., & Weisshaar, A. (2018). Thinking About Biology: An Introductory Lab Manual (What's New in Biology). 6th ed.: Pearson.

ARTICULATION and CERTIFICATE INFORMATION

CSU TRANSFER:

Transferable CSU

UC TRANSFER:

Transferable UC

SUPPLEMENTAL DATA:

Basic Skills: N

Classification: Y

Noncredit Category: Y

Cooperative Education: N

Program Status: 1 Program Applicable

Special Class Status: N

Prior to College Level: Y

Non Credit Enhanced Funding: N

Funding Agency Code: Y

In-Service: N

Occupational Course: E

Course Control Number: CCC000310399

Sports/Physical Education Course: N

Taxonomy of Program: 040100

CIP: 260101