

BIO 100 Course Outline as of Spring 2022**CATALOG INFORMATION**

Dept and Nbr: BIO 100 Title: BASIC BIOLOGY SKILLS

Full Title: Basic Biology Skills

Last Reviewed: 9/25/2023

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	6	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

Catalog Description:

Introductory course to develop skills necessary for completion of Introduction to Principles of Biology (BIO 10). Course is designed for students who have not developed the skills necessary for successful completion of college transfer-level science courses. Class will apply basic study skills to the understanding of biological elements in living systems, from the level of atoms to ecosystems. A specific focus topic such as water will be used to relate learning skills to specific biological information.

Prerequisites/Corequisites:**Recommended Preparation:**

Eligibility for ENGL 100 or ENGL 102 or ESL 100

Limits on Enrollment:**Schedule of Classes Information:**

Description: Introductory course to develop skills necessary for completion of Introduction to Principles of Biology (BIO 10). Course is designed for students who have not developed the skills necessary for successful completion of college transfer-level science courses. Class will

apply basic study skills to the understanding of biological elements in living systems, from the level of atoms to ecosystems. A specific focus topic such as water will be used to relate learning skills to specific biological information. (Grade or P/NP)

Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 100 or ENGL 102 or ESL 100

Limits on Enrollment:

Transfer Credit:

Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area	Effective:	Inactive:
CSU GE:	Transfer Area	Effective:	Inactive:
IGETC:	Transfer Area	Effective:	Inactive:
CSU Transfer:		Effective:	Inactive:
UC Transfer:		Effective:	Inactive:

CID:

Certificate/Major Applicable:

Certificate Applicable Course

COURSE CONTENT

Student Learning Outcomes:

At the conclusion of this course, the student should be able to:

1. Utilize college skills including organizing classroom materials and applying active learning techniques.
2. Identify the steps in the scientific method and develop a hypothesis statement.
3. Define the levels of biological organization and explain the importance of each in maintaining life.

Objectives:

At the conclusion of this course, the student should be able to:

1. Take effective notes and keep an organized notebook.
2. Apply concepts learned in biology to laboratory style observations and experiments.
3. Apply the methods of science to formulating and testing hypotheses.
4. Describe examples of the levels of biological organization from the atomic to the ecosystem scale.
5. Explain selected processes that govern the functioning of biological systems in cells, organisms, populations, and communities.
6. Apply general ideas about biological systems to one specific focus topic such as water.
7. Apply active learning techniques.

Topics and Scope:

- I. Learning to Learn
 - A. Active learning skills

- B. Biology in a lecture setting
- C. Preparing for exams
- D. Organizational skills
- II. The Methods of Science
 - A. Observation
 - B. Hypotheses
 - C. Deductive reasoning
- III. Introduction to Molecules
 - A. Atomic structure
 - B. Chemical bonding
 - C. Macromolecules: carbohydrates, lipids, proteins, and nucleic acids
- IV. Cells
 - A. Structure
 - B. Membranes
 - C. Transport
- V. Organisms
 - A. Plants
 - B. Animals
 - C. Microorganisms
- VI. Human Populations
 - A. Population growth
 - B. Effects on other biological organisms
- VII. Community Interactions
 - A. Trophic levels: producers, consumers, decomposers
 - B. Food chains and food webs
- VIII. Ecosystems
 - A. Energy transformations
 - B. Nutrient cycles
 - C. Role of microorganisms in ecosystem processes
 - D. Local and regional ecosystem processes

Assignment:

1. Reading from texts, news articles, and handouts (approximately 150 pages per semester)
2. Homework to include graphs, worksheets and study guides (approximately 50 pages per semester)
3. Classroom exercises to promote active learning and study skills
4. Written homework, news article summaries, and/or short essays
5. One midterm exam and one final exam
6. Quizzes (8-9)

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Written homework, news article summaries, short essays
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Writing 10 - 30%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework assignments, graphing data

Problem solving
5 - 20%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None

Skill Demonstrations
0 - 0%

Exams: All forms of formal testing, other than skill performance exams.

Quizzes, mid-term and final exam. Multiple choice, matching items, completion (short answer/essays).

Exams
40 - 60%

Other: Includes any assessment tools that do not logically fit into the above categories.

Classroom participation and attendance

Other Category
10 - 25%

Representative Textbooks and Materials:

Instructor prepared materials