

CATALOG INFORMATION

Dept and Nbr: BIO 10

Title: INTRO PRIN BIOLOGY

Full Title: Introduction to Principles of Biology

Last Reviewed: 1/28/2019

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	4.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	4.00	Lab Scheduled	3.00	1	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	6.00		Contact Total	105.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00

Total Student Learning Hours: 210.00

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:
Basic course in biology including concepts of cellular biology, chemistry of life, cellular and organismic reproduction, organismic physiology, genetics, evolution, ecology and the methods of science; for students not majoring in biological sciences.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100A or ENGL 100.

Limits on Enrollment:

Schedule of Classes Information:
Description: Concepts of cellular biology, chemistry or life, cellular & organismic reproduction, genetics, evolution, ecology & the methods of science. (Grade or P/NP)
Prerequisites/Corequisites:
Recommended: Eligibility for ENGL 100A or ENGL 100.
Limits on Enrollment:
Transfer Credit: CSU;UC.

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

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area		Effective:	Inactive:
	C	Natural Sciences	Fall 1981	
CSU GE:	Transfer Area		Effective:	Inactive:
	B2	Life Science	Fall 1981	
	B3	Laboratory Activity		
IGETC:	Transfer Area		Effective:	Inactive:
	5B	Biological Sciences	Fall 1981	
	5C	Fulfills Lab Requirement		
CSU Transfer:	Transferable	Effective:	Fall 1981	Inactive:
UC Transfer:	Transferable	Effective:	Fall 1981	Inactive:

CID:

Certificate/Major Applicable:

Not Certificate/Major Applicable

COURSE CONTENT

Outcomes and Objectives:

The students will:

1. Memorize and be able to define biological terms which illustrate such fundamental processes as metabolism, reproduction, homeostasis, and evolution.
2. Recognize and name the major levels of biological organization from macromolecule and cells to ecosystems and biomes.
3. Learn the major biogeographical realms of the earth and describe how prevailing climatic conditions determine where these realms are located.
4. Be able to name indicator species of major biomes and how these organisms have adapted to the natural habitat in which they have evolved.
5. Identify and be able to classify some of the commonly known organisms.
6. Be able to explain how there is a complementarity between form and function by relating the structure of cells and organisms to their physiological processes.
7. Explain how energy flows causing materials to cycle through the various trophic levels of ecosystems.
8. Understand how populations increase in numbers and are limited by environmental and intrinsic factors.
9. Relate the principles of genetics to the processes of evolution.
10. Understand that all populations and ecosystems are in a continuous state of ecological and evolutionary change.
11. Learn the basic steps in scientific methodology of investigation and to apply these methods in laboratory exercises.

12. Apply statistics to observations made in the laboratory and integrate these statistics with the scientific method of investigation.
13. Formulate hypothesis with regard to experimental data obtained in laboratory experiments and interpret the results by evaluating the data.
14. Recognize that any scientific theory may be partially or entirely in error, and therefore theories are always subject to further critical analysis.
15. Understand the Uncertainty Principle of Science and how that principle applies to all knowledge.

Topics and Scope:

1. The biosphere: climate and world biomes.
2. The biosphere: diversity of life forms.
3. Ecology of ecosystems and communities.
4. Populations: structure, function, and interactions.
5. The methods and philosophies of science.
6. Organisms: nutrition, support, transport and gas exchange.
7. Organisms: chemical and nervous integration.
8. Behavior of plants and animals.
9. Organs, tissues and cells of microorganisms, plants, animals.
10. Cell structure and ultrastructure.
11. Chemistry of cells and life.
12. Cellular reproductions.
13. Organismic reproduction.
14. Genetics of organisms.
15. Mechanisms of evolution and speciation.
16. Evolution of life and world biomes.

Assignment:

1. Assigned reading from texts and handouts.
2. Lab reports involving scientific method of analysis and interpretation.
3. Assigned homework in laboratory manual.
4. Genetic problem homework.

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, Lab reports, Term papers
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Writing 0 - 10%

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

Homework problems, Lab reports, Quizzes, Exams
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Problem solving 0 - 0%

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.

Multiple choice, Matching items

Exams
0 - 60%

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

LAB PRACTICALS

Other Category
0 - 30%

Representative Textbooks and Materials:

BIOLOGY 5th ed., by Starr and Taggart, 1989.

DARWIN AND VOYAGE OF THE BEOGLE by Alan Morehead.