BIO 14 Course Outline as of Fall 2006

CATALOG INFORMATION

Dept and Nbr: BIO 14 Title: CURRENT ISSUES IN BIO
Full Title: Current Issues in Biology
Last Reviewed: 5/9/2022

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	17.5	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 Only
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	

Catalog Description:
Designed to introduce non-majors to the basic principles of biology, using topics from ecology, evolution, anatomy, physiology, genetics, molecular and cell biology. This will be done in the context of current issues in modern biology.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100 or equivalent.

Limits on Enrollment:

Schedule of Classes Information:
Description: Basic principles of biology addressed in a real world context of current issues of ecology, evolution, anatomy, physiology, molecular, genetic and cellular biology. (Grade Only)
Prerequisites/Corequisites:
Recommended: Eligibility for ENGL 100 or ESL 100 or equivalent.
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 2018	
	C	Natural Sciences	Fall 2006	Spring 2010
CSU GE:	**Transfer Area**		Effective:	Inactive:
	B2	Life Science	Fall 2018	
	B2	Life Science	Fall 2006	Spring 2010
IGETC:	**Transfer Area**		Effective:	Inactive:
	5B	Biological Sciences	Fall 2018	
	5B	Biological Sciences	Fall 2006	Spring 2010

CSU Transfer:	Transferable	Effective:	Fall 2006	Inactive:	Spring 2010
UC Transfer:	Transferable	Effective:	Fall 2006	Inactive:	Spring 2010

CID:

Certificate/Major Applicable:
Not Certificate/Major Applicable

COURSE CONTENT

Outcomes and Objectives:
Upon successful completion of the course, students will be able to:
1. Explain the scientific method and assess information about current scientific issues using this methodology.
2. Compare and contrast science and pseudoscience.
3. Assess the role of science in society.
4. Demonstrate knowledge of ecosystem, community, and population biology.
5. Explain principles of evolution such as natural selection, speciation, and the origin of biodiversity.
6. Analyze and relate molecular biology and Mendelian genetics.
7. Differentiate between prokaryotic and eukaryotic cell types and relate to knowledge of cell structure and function.
8. Describe the basic anatomy and physiology of plant and animal organ systems and relate to disease mechanisms.
9. Synthesize the information from the different areas of biology (ecology, evolution, anatomy, physiology, genetics, molecular, and cell biology).
10. Apply the basic principles and information of ecology, evolution, anatomy, physiology, genetics, molecular, and cell biology to current issues in modern biology.
11. Analyze and critically evaluate a current issue in biology and current events using the principles of the scientific method.

Topics and Scope:

I. Scientific method versus other methods of decision-making

A.What is science and how is the scientific process conducted?
B.Science versus pseudoscience
C.Science's role in and influence on society
II. Basic principles of ecology
A.Ecosystem structure and function
B.Community structure and function
C.Population structure, growth rates and human population dynamics
III. Principles of evolution
A.Natural Selection
B.Speciation
C.Relationship to biodiversity and extinction crisis
IV. Structure and function of cells
A.Prokaryotic versus eukaryotic
B.Connection to anatomy and physiology, genetics, evolution
C.Anatomy and physiology of plants and animals
V. Genetics and inheritance
A.Molecular genetics
B.Mendelian genetics
C.Relationship to cell biology, evolution, and populations
VI. Anatomy and physiology of plants and animals
A.Structure and functions of specific, selected organisms
B.Relationship to ecology, evolution, genetics and disease mechanisms
VII. Applications of each of the above areas of biology to the current, important issues in modern biology and current events

Assignment:

1. Assigned reading from text and instructor prepared material (10-30 pages/week).
2. Participation in class exercises, case studies, and discussions relating to specific current biological topics and their relationship to current events.
3. Response papers analyzing current issues in the context of the biological knowledge gained in the course (2-4 pages each).
4. Oral reports on biological topics and their relationship to current events.
5. 5-10 quizzes on lecture and reading material.
6. Written exams covering biological content and applications to current issues in biology.

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.

Response papers	Writing 10 - 30%

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

Case studies	Problem solving 5 - 10%

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

Oral reports	Skill Demonstrations 5 - 10%

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

Multiple choice, Matching items, Completion, Quizzes, Short answer, Essay	Exams 40 - 60%

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

Attendance and participation	Other Category 5 - 10%

Representative Textbooks and Materials:
Current Issues in Biology, Volume 1&2. Scientific American, Benjamin Cummings, 2003
Biology Today; an Issues Approach, 3rd Edition, Minkoff, Baker, Garland Science, 2004
Instructor prepared materials.