



One College Drive, Blythe CA 92225
(760) 921-5500

Course Control Number: CCC000418210		
Course Outline Approval Dates		
Modality	Curriculum Committee	Board of Trustees
Face-to-face	3/14/2019	4/16/2019
Correspondence Ed.		
Distance Ed.		

COURSE OUTLINE OF RECORD

Course Information

Course Initiator: Rosanna Hartline, Ph.D.			
CB01 - Subject and Course #: BIO 110			
CB02 - Course Title: Basics of Biology			
New Course: <input type="checkbox"/>		Non-Substantial: <input checked="" type="checkbox"/>	
		Substantial: <input type="checkbox"/>	
Articulation Request: <input checked="" type="checkbox"/> UC		<input checked="" type="checkbox"/> CSU	
		<input checked="" type="checkbox"/> CSU-GE	
		<input checked="" type="checkbox"/> IGETC	
Lecture Hours: 54		Laboratory Hours: 54	
		Clinical/Field Hours:	
CB06/CB07: Course Units: 4.0			
Prerequisites:			
Co-requisites:			
Advisories: Eligibility for MAT 106, MAT 108, or MAT 110 based on AB 705 mandates			
CB03 - TOP Code:		0401.00 - Biology, General	
CB04 - Credit Status:		D - Credit - Degree Applicable	
CB05 - Transfer Status:		A - Transferable to both UC and CSU	
CB08 - Basic Skills Status:		N - Course is not a basic skills course	
CB09 - SAM Priority Code:		E - Non-Occupational	
CB10 - Cooperative Work:		N - Is not part of Cooperative Work Experience Education Program	
CB11 - Course Classification:		Y - Credit Course	
CB13 - Approved Special:		N - Course is not a special class	
CB21 - Prior Transfer Level:		Y - Not Applicable	
CB22 - Noncredit Category:		Y - Credit Course	
CB23 - Funding Agency:		Y - Not Applicable	
CB24- Program Status:		1 - Program Applicable	
Transfer Request:		A= UC and CSU	

Please select the appropriate box(s) of the modalities in which this course will be offered, and fill out the appropriate sections for that mode.

- Face-to-Face – Section B
- Correspondence Education – Section C
- Distance Education – Section D

JUSTIFICATION OF NEED:

Basics of Biology meets CSU-GE, IGETC, major prep requirements in various biological majors, and prerequisite for BIO 111, BIO 210, and BIO 211.

CATALOG DESCRIPTION:

Structural and functional examination of cellular functions including cell morphologies, biological molecules, cell division, cell metabolism, and gene expression. Topics related to organismal biology and evolutionary biology are also explored including genetics, ecology, evolution, microbes, protozoa, plants, fungi, animals, and animal behavior. BIO 110 is typically offered in the Fall semester and is a prerequisite for BIO 111 Basic Microbiology, BIO 210 Human Anatomy, and BIO 211 Human Physiology.

COURSE OBJECTIVES:

1. Relate evolutionary processes to the origin and evolution of cells.
2. Describe the structures and functions of plant and animal cells.
3. Compare and contrast cellular processes of prokaryotes and eukaryotes, including structure and reproduction.
4. Explain how DNA replicates and transmits genetic information.
5. Evaluate the scientific evidence supporting the theory of evolution.
6. Evaluate the characteristics of life.
7. Practice scientific writing.
8. Conduct experiments and collect, analyze, graph, and interpret experimental results.
9. Become familiar with scientific literature.

STUDENT LEARNING OUTCOMES:

1. Compare and contrast the structure and function of plant and animal cells.
2. Demonstrate an understanding of the importance and process of gene expression.
3. List and explain 3 lines of evidence supporting the theory of evolution.

A. COURSE OUTLINE AND SCOPE

1. Outline of topics or content:

1. Science and Biology
2. Atoms and molecules: The chemical basis of life
3. Biological Molecules
4. Organization of the cells
5. Biological membranes
6. Energy and metabolism
7. How cells make ATP: Energy-releasing pathways
8. Photosynthesis: capturing light energy
9. Chromosomes, mitosis and meiosis
10. Genetics
11. DNA: The carrier of genetic information
12. Gene expression
13. Gene regulation
14. Introduction to Darwinian evolution
15. Evolutionary changes in populations
16. Viruses, bacteria and archaea
17. Protists
18. Plants
19. Fungi
20. Animals
32. Animal reproduction

33. Animal behavior
34. Human Impacts on the Biosphere

2. If a course contains laboratory or clinical/field hours, list examples of activities or topics:

1. Scientific Method
2. Organic Compounds
3. Microscopes and Cell Size
4. Cell Structure and Function
5. Diffusion & Osmosis
6. Photosynthesis & Cellular Respiration
7. Mitosis
8. Genetics
9. Gene Expression
10. Evolution
11. Cladograms
12. Microbiology
13. Plants
14. Fungi
15. Animals
16. Animal Behavior and Reproduction
17. Ecosystem Sampling
18. Human Impacts

3. Examples of reading assignments:

Assigned readings in the textbook.

Select journal articles related to course topics.

4. Examples of writing assignments:

Provide written responses to questions and problems related to class topics and laboratories.

5. Appropriate assignments to be completed outside of class:

1. Weekly written assignments providing answers to assigned questions and problems related to class topics.
2. Weekly laboratory assignments providing answers to assigned questions and problems related to laboratories.

6. Appropriate assignments that demonstrate critical thinking:

Below are some examples of appropriate critical thinking assignment questions:

1. Based on what you know about living things, what would you predict would have happened if we tested potato cells, banana cells, muscle cells, and egg cells for nucleic acids?
2. Compare your chi-square value with the appropriate critical value. Do your results agree with a Mendelian mode of inheritance?
3. Are contemporary populations of humans evolving? Explain your answer.

7. Other assignments (if applicable):

As considered appropriate by the professor.

Check if Section B is not applicable

B. FACE-TO-FACE COURSE SECTIONS:

Face-to-face education

Is a mode of delivery in which instruction is delivered in a traditional classroom setting, with instructor and students located simultaneously in the same classroom facility.

1. Describe the methods of instruction:

Method of instruction may include, but are not limited to, the following:

1. Lecture and visual aids
2. Videos and animations
3. Discussion of assigned reading
4. Problem solving performed in class
5. Field observation
6. Collaborative learning and small group exercises
7. Laboratory experiences and experiments that involve data collection, analysis, and interpretation
8. Laboratory discussion sessions

2. Describe the methods of evaluating of student performance.

A student's grade will be based on multiple measures of performance. These methods may encompass, but are not limited to, the following:

1. Examinations which may include fill in the blanks, multiple-choice questions, matching, true or false, short answer, and essays.
2. Homework assignments.
3. Quizzes.
4. Laboratory assignments involving scientific application, synthesis, graphing, and analysis of data.

3. Describe how the confidentiality of the student's work and grades will be maintained.

Instructors shall make reasonable efforts to protect the confidentiality of students' grades and graded work consistent with practices described in the Family Education Rights and Privacy Act (FERPA).

4. If the course has a lab component, describe how lab work is to be conducted and how student work is to be evaluated.

Method of Instruction:

1. Hands-on laboratory experiences and experiments that involve data collection, analysis, and interpretation.
2. Collaborative learning and small group exercises.
3. Laboratory assignments involving scientific application, synthesis, and critical analysis of data.

NOTE: Students will be encouraged by instructors of this course to direct themselves to the College's Disabled Students' Programs and Services (DSP&S) department if they believe they have a learning disability.

Check if Section C is not applicable

C. CORRESPONDENCE EDUCATION COURSE SECTIONS (Correspondence, hybrid correspondence)

Correspondence education

is a mode of delivery in which instructional materials are delivered by mail, courier or electronic transmission to students who are separated from the instructor by distance. Contact between instructor and students is asynchronous.

Hybrid correspondence education

is the combination of correspondence and face-to-face interaction between instructor and student.

1. Describe the methods of instruction.

2. Describe the methods of evaluating student performance.

3. Describe how regular, effective contact between the instructor and a student is maintained.

4. Describe procedures that help verify the individual submitting class work is the same individual enrolled in the course section.

5. Describe procedures that evaluate the readiness of a student to succeed in a correspondence or hybrid correspondence course section.

6. Describe how the confidentiality of the student's work and grades will be maintained.

7. If the course has a lab component, describe how lab work is to be conducted and how student work is to be evaluated.

8. If the course requires specialized equipment, including computer and computer software or other equipment, identify the equipment, and describe how it is to be accessed by students.

Note: Students will be encouraged by instructors of this course to direct themselves to the College's Disabled Students' Programs and Services (DSP&S) department if they believe they have a learning disability.

Check if Section D is not applicable

D. DISTANCE EDUCATION COURSE SECTIONS (online, ITV, hybrid)

Online education

is a mode of delivery in which all instruction occurs online via the Internet. Student and instructor access to email and the Internet is required. Students are required to complete class work using email, chat rooms, discussion boards and other instructional online venues.

Interactive television (ITV)

is a mode of synchronous delivery in which instruction occurs via interactive television (closed circuit).

Hybrid instruction

is a combination of face-to-face instruction and online instruction.

1. Describe the methods of instruction.

2. Describe the methods of evaluating of student performance.

3. Describe how regular, effective contact between the instructor and a student is maintained.

4. Describe procedures that help verify the individual submitting class work is the same individual enrolled in the course section.

5. Describe procedures that evaluate the readiness of a student to succeed in an online, ITV or hybrid course section.

6. Describe how the confidentiality of the student's work and grades will be maintained.

7. If the course has a lab component, describe how lab work is to be conducted and how student work is to be evaluated.

8. If the course requires specialized equipment, including computer and computer software or other equipment, identify the equipment, and describe how it is to be accessed by students.

Note: Students will be encouraged by instructors of this course to direct themselves to the College's Disabled Students' Programs and Services (DSP&S) department if they believe they have a learning disability.

E. REPRESENTATIVE TEXTBOOKS AND OTHER READING AND STUDY MATERIALS:

List author, title, and current publication date of all representative materials.

Russell, Hertz, McMillan, 2017. Biology: The Dynamic Science, 4th Edition. Cengage Learning: Australia.

SIGNATURES

COURSE INITIATOR: _____

DATE: _____

DIVISION CHAIR: _____

DATE: _____

LIBRARY: _____

DATE: _____

CHAIR OF CURRICULUM COMMITTEE: _____

DATE: _____

SUPERINTENDENT/PRESIDENT: _____

DATE: _____