

# BIOL-110: SURVEY OF BIOLOGY

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## Effective Term

Fall 2026

## CC Approval

12/05/2025

## AS Approval

12/11/2025

## BOT Approval

12/18/2025

## COCI Approval

02/26/2026

## SECTION A - Course Data Elements

### CB04 Credit Status

Credit - Degree Applicable

### Discipline

Minimum Qualifications	And/Or
Biological Sciences (Master's Degree)	

### Subject Code

BIOL - Biology

### Course Number

110

### Department

Biology

### Division

Science and Engineering (SE)

### Full Course Title

Survey of Biology

### Short Title

Survey of Biology

### CB03 TOP Code

0401.00 - Biology, General

### CB08 Basic Skills Status

NBS - Not Basic Skills

### CB09 SAM Code

E - Non-Occupational

### Rationale

Update DEI.

## SECTION B - Course Description

### Catalog Course Description

A study of life, including surveys of plant and animal kingdoms, mammalian anatomy and physiology, cytology, genetics, and ecology. Intended for non-biology majors.

**SECTION C - Conditions on Enrollment****Open Entry/Open Exit**

No

**Repeatability**

Not Repeatable

**Grading Options**

Letter Grade or Pass/No Pass

**Allow Audit**

Yes

**Requisites****SECTION D - Course Standards****Is this course variable unit?**

No

**Units**

4.00000

**Lecture Hours**

54

**Lab Hours**

54

**Outside of Class Hours**

108

**Total Contact Hours**

108

**Total Student Hours**

216

**Distance Education Approval****Is this course offered through Distance Education?**

Yes

**Online Delivery Methods**

DE Modalities	Permanent or Emergency Only?
Entirely Online	Permanent
Hybrid	Permanent
Online with Proctored Exams	Permanent

**SECTION E - Course Content****Student Learning Outcomes**

**Upon satisfactory completion of the course, students will be able to:**

1. Understand the terminology commonly used in the biological sciences.
2. Evaluate the differences between prokaryotic and eukaryotic cells.
3. Describe the structure of eukaryotic cells and relate cellular structure to functions.

## Course Objectives

Upon satisfactory completion of the course, students will be able to:	
1.	Develop an appreciation for the complexities of life. Describe and analyze the characteristics common to all life forms and the differences used for taxonomic classification. Compare the Kingdoms of life and within each Kingdom identify traits used to separate taxa.
2.	Explain levels of organization within living systems including evaluating prokaryotic and eukaryotic cellular differences and similarities; tissues; organs; and systems.
3.	Understand complexities of biological macromolecules and the contribution of each to metabolism.
4.	Be able to solve Mendelian genetics problems and relate genetics to protein synthesis and recombinant DNA technology.
5.	Recognize stages of mitosis and meiosis and evaluate the role of cell division in different organisms' life cycles.
6.	Apply basic principles of ecology in energy flow and nutrient recycling to metabolism of life.
7.	Understand and evaluate the role of natural selection giving examples of primitive to advanced characteristics in plants and animals.
8.	Examine the relationship between structure and function in both plant and animal organs.
9.	Demonstrate manipulative skill in use of both compound and dissecting microscopes in recognizing organelles, cells, tissues, organs, and organisms. Demonstrate familiarity with plant and animal macroscopic tissues and organs.
10.	Understand the scientific method to be able to evaluate information obtained and make informed choices of application.

## Course Content

### Lecture:

1. Characteristics of life
  - a. Living organisms
  - b. Virus and prion
2. Chemistry life
  - a. Elements, bonds, inorganic molecules
  - b. Macromolecules of life
    - i. Carbohydrates
    - ii. Lipids
    - iii. Proteins
    - iv. Nucleic Acids
3. Levels of biological organization
4. Cell structure and function
  - a. Organelle structure and physiology
  - b. Membrane permeability
  - c. Metabolism of photosynthesis and cell respiration
5. Cell division
  - a. Mitosis
  - b. Meiosis
6. Genetics and protein synthesis
7. Diversity of life
  - a. Domain Bacteria, Archaea, Eukarya
  - b. Protists
  - c. Fungi
  - d. Plants
  - e. Animals
8. Plant Anatomy and Physiology
  - a. Flower
  - b. Leaf
  - c. Stem
  - d. Root
9. Animal Anatomy and Physiology
  - a. Digestion
  - b. Respiration
  - c. Circulation
  - d. Urinary

- e. Reproductive
- f. Endocrine and Nervous

## Methods of Instruction

### Methods of Instruction

Types	Examples of learning activities
Experiments	
Lab	
Lecture	Lecture covering topics in course content with images

### Online Adaptation

Types	Examples of learning activities
Activity	
Directed Study	
Discussion	
Group Work	
Individualized Instruction	
Journal	
Lecture	

### Instructor-Initiated Online Contact Types

Announcements/Bulletin Boards  
 Chat Rooms  
 Discussion Boards  
 E-mail Communication  
 Telephone Conversations  
 Video or Teleconferencing

### Student-Initiated Online Contact Types

Chat Rooms  
 Discussions  
 Group Work

### Course design is accessible

Yes

## Methods of Evaluation

### Methods of Evaluation

Types	Examples of classroom assessments
Exams/Tests	Examinations - Lecture examinations will consist of objective questions in a variety of formats including short answer, multiple choice, and essay questions. Lab examinations involve identifying organisms and biological structures and demonstrating knowledge of basic laboratory methods.
Quizzes	Quizzes are short examinations covering both lecture material and current laboratory exercises.
Homework	These assignments include solving Mendelian genetic calculations and a biological chemistry problem set.
Lab Activities	Students will keep an organized lab notebook of their observations of the exercises performed in the laboratory. The lab notebook will be evaluated by the laboratory instructor at the end of the course.

## Assignments

### Reading Assignments

Selected readings from the required textbook and laboratory manual.

For example:

1. Read chapter 1 from "Biology - A Guide to the Natural World" covering the scientific method.
2. Read exercise 1 in the laboratory manual and summarize the procedures to be performed in lab.

### Writing Assignments

Writing assignments that are graded on scientific accuracy, organization, and correct use of English grammar and spelling.

For example:

1. Genetics problem set
2. Chemistry problem set

### Outside-of-Class Assignments

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## SECTION F - Textbooks and Instructional Materials

### Material Type

Textbook

### Author

Krogh

### Title

Krogh

### Edition/Version

5th

### Publisher

Pearson Prentice Hal

### Year

2013

### Material Type

Textbook

### Author

Simon, E.

### Title

Biology The Core

### Edition/Version

3rd

### Publisher

Pearson Prentice Hall

### Year

2020

## SECTION G - Diversity, Equity and Inclusivity

**How does your course and/or course outline of record reflect strategies for accommodating and engaging diverse student populations, advancing equitable outcomes, and fostering inclusion for all students?**

This course supports diverse student populations through the use of multiple representations of concepts, varied applications, and technology. Strategies may also include collaborative learning, transparent assessment practices, low-cost resources, and opportunities for students to connect course material to their own experiences, fostering equitable outcomes and an inclusive classroom environment.

## **Course Codes (Admin Only)**

### **CB00 State ID**

CCC000321949

### **CB10 Cooperative Work Experience Status**

N - Is Not Part of a Cooperative Work Experience Education Program

### **CB11 Course Classification Status**

Y - Credit Course

### **CB13 Special Class Status**

N - The Course is Not an Approved Special Class

### **CB23 Funding Agency Category**

Y - Not Applicable (Funding Not Used)

### **CB24 Program Course Status**

Program Applicable

### **Allow Pass/No Pass**

Yes

### **Only Pass/No Pass**

No