

# BIO 115 - CELL, PLANT & ECOSYSTEM BIOLOGY

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## Course Description

An introduction to the fundamental concepts of biology, including an investigation of the major kingdoms of life, classification, ecology, botany, cellular anatomy and biochemistry, DNA structure and function, genetic engineering, cloning and stem cell technologies. Laboratory includes field work and investigative exercises which illustrate lecture topics. Group 1 lab course.

## Credit Hours

4

## Contact Hours

6

## Lecture Hours

3

## Corequisites

BIO 115L

## Recommended Prerequisites or Skills Competencies

ENG 111, MTH 111

## General Education Outcomes supported by this course

Critical Thinking - Direct

## Course Learning Outcomes

### Knowledge:

- Describe the fundamentals of cellular, plant, and ecosystem-based material.
- Explain biological principles.

### Application:

- Use standard laboratory equipment, modern instrumentation, and classical techniques to carry out experiments.
- Utilize the scientific method.
- Record data from experiments.
- Explain the conceptual purpose relating to a given experiment.

### Integration:

- Apply biological principles and generalizations to new problems and situations.
- Synthesize information and ideas from several different sources.
- Identify interactions between biology and other areas of knowledge.
- Evaluate the results of their biological experiments.
- Communicate the concepts and results of their laboratory experiments through effective writing and oral communication skills.
- Synthesize complicated conceptual ideas by organizing, condensing and evaluating information.

### Human Dimension:

- Collaborate to conduct laboratory experiments.
- Describe and discuss complex biological processes with lay people and peers.
- Use the content in this course to inform and help others and themselves.

### Caring - Civic Learning:

- Reflect on the real-world applications of biology.

### Learning How to Learn:

- Connect the knowledge in this course to real-life situations and experiences.
- Use problem solving skills and strategies in real-life situations.
- Utilize scientific literacy skills to perform research beyond this course.