BIO 215 - GENETICS

Course Description

A comprehensive treatment of classical genetics will be covered in addition to an in-depth study of molecular genetics, research techniques and applications of recombinant DNA technology. A major emphasis will be on the current results of genetic research as it applies to the molecular mechanisms of inheritance, and other topics such as gene therapy, cloning stem cell research and genetically modified organisms. Population genetics will also be covered. Group 1 course.

Credit Hours

3

Contact Hours

3

Lecture Hours

3

Required Prerequisites

Completion of any 100-level BIO course.

Recommended Prerequisites or Skills Competencies

ENG 111, MTH 111

General Education Outcomes supported by this course

Quantitative Reasoning

Course Learning Outcomes

Knowledge:

- Identify a broad set of biology-centered topics concerning the fundamentals of genetics.
- Explain the principles of genetics and molecular genetics.

Application:

- Define the objective of in-class genetics experiments.
- Use standard laboratory procedures to obtain and record their experiment results.

Integration:

- Synthesize scientific principles and generalizations to solve new problems.
- Identify interactions between genetics and real-life applications.
- Analyze the results of genetic experiments and communicate the results.

Human Dimension:

- Work collaboratively on various applications.
- Discuss complex genetic and molecular biology processes with lay people and peers.

Caring - Civic Learning:

- Relate genetics to real-world applications.

Learning How to Learn:

- Synthesize complicated conceptual ideas.
- Learn new problem solving skills and strategies.
- Interpret articles from relevant science journals.