SECTION HEADING

BIOL 2240: Genetics

Description

Genetics covers the fundamentals of plant and animal genetics and includes the study of modes of inheritance, mechanisms of gene action, human genetics, and the behavior of genes in populations. Lecture and lab included.

Credits

3

Prerequisite

BIOL 1110

Corequisite

None

Topics to be Covered

1. Basic principles of genetics and problem-solving skills

2. Genetic linkage and gene mapping

3. Current methodologies in genetics, gene expression, gene regulation in prokaryotes and eukaryotes

4. Genetic basis of diseases common to organisms

5. Human genetics and evolutionary genetics.

Learning Outcomes

1. Demonstrate an introductory level of genetic knowledge.

2. Demonstrate and understand how genetics developments play important roles in society.

3. Demonstrate problem solving skills in lab and lecture as well as out of class settings.

4. Effectively summarize experimental findings and interpretations of laboratory investigations.

5. Describe techniques of modern genetic technology and apply to solve practical genetic problems. Identify interactions among genes, environmental factors, and behaviors and their roles in health and disease.

Credit Details

Lecture: 2

Lab: 1

OJT: 0

MnTC Goal Area(s): Goal Area 03 - Natural Sciences

Minnesota Transfer Curriculum Goal Area(s) and Competencies

Goal Area 03: Natural Sciences

1. Demonstrate understanding of scientific theories.

2. Formulate and test hypotheses by performing laboratory, simulation, or field experiments in at least two of the natural science disciplines. One of these experimental components should develop, in greater depth, students' laboratory experience in the collection of data, its statistical and graphical analysis, and an appreciation of its sources of error and uncertainty.

3. Communicate their experimental findings, analyses, and interpretations both orally and in writing.

4. Evaluate societal issues from a natural science perspective, ask questions about the evidence presented, and make informed judgments about science-related topics and policies.