



Syllabus

BIO 241 - Laboratory in Genetics

General Information

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Department Science and Technology

Course Prefix BIO

Course Number 241

Course Title Laboratory in Genetics

Course Information

Catalog Description A laboratory offering to compliment BIO 240. This course provides a variety of laboratory experiences including classical, morphological, and molecular genetics.

Credit Hours 1

Lecture Contact Hours 0

Lab Contact Hours 3

Other Contact Hours 0

Grading Scheme Letter

Prerequisites

None

Co-requisites

BIO 240

First Year Experience/Capstone Designation

This course DOES NOT satisfy the outcomes applicable for status as a FYE or Capstone.

SUNY General Education

This course is designated as satisfying a requirement in the following SUNY Gen Ed category

None

FLCC Values

Institutional Learning Outcomes Addressed by the Course

Vitality, Inquiry, Perseverance, and Interconnectedness

Course Learning Outcomes

Course Learning Outcomes

1. Utilize lab protocols for extraction, manipulation and analysis of DNA.
2. Construct laboratory experiments to investigate a scientific claim.
3. Communicate findings of scientific in both written and oral formats.

Outline of Topics Covered

Experimental design and reagent ordering
Laboratory solution preparation
Chromosomal DNA preps
Agarose gel analysis of DNA
Plasmid preps
Transformation experiments
Restriction enzyme digestion and modification
DNA cloning
The Lac operon and blue white selection
Beta-galactosidase assays
Fruit fly crosses and inheritance
Mutagenesis
Polymerase chain reaction
Microarray analysis