



# BIOTECHNOLOGY

## COURSE SEQUENCE OVERVIEW

### INTRODUCTION TO BIOMEDICAL SCIENCES

This one-year course introduces students to the biomedical sciences and focuses on the interrelationships of biological systems as they relate to a disruption in homeostasis. Laboratory experiences, demonstrations, case studies, and mathematical integration are a fundamental component of this course.

### PRINCIPLES OF BIOTECHNOLOGY

This one-year course focuses on techniques that use living organisms or substances from those organisms, to make or modify a product to improve plants or animals, or to develop microorganisms for specific uses. This course develops the skills and practices necessary to understand aspects related to biotechnology, which are represented among microbial, plant, animal, marine, genomics, medical ethics, and bioethics. Demonstrations and lab experiences that employ proper safety techniques are essential to this course.

### ADVANCED BIOTECHNOLOGY

This one-year course focuses on techniques that use living organisms or substances from those organisms, to make or modify a product to improve plants or animals, or to develop microorganisms for specific uses. This laboratory-intensive course applies the skills and practices necessary to understand aspects related to biotechnology, which are represented among immunology, microbial genomics, and bioethics for the purpose of applications within the medical field.

### SENIOR RESEARCH PROJECT

This one-year course is designed to enable seniors to thoroughly investigate an approved scientific topic of their choice under the sponsorship of a mentor and/or committee. The project must be designed and approved prior to the beginning of the student senior year. Students are expected to work independently and consult with their supervising mentor for guidance.