

Course Abstract

If you need accommodations due to a disability, contact Disability Services in Edison Hall Room 100, 732.906.2546.

To foster a productive learning environment, the College requires that all students adhere to the Code of Student Conduct which is published in the college catalog and website.

Course ID and Name: BIO132 Introduction to Biotechnology: Concepts & Issues

Department: Natural Sciences

Chairperson: Dr. Donna Howell
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Course Coordinator: Dr. Erin Christensen
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Prerequisites: BIO 123

Co-requisites: N/A

Course Description:

This course is a seminar survey of biotechnological methods and techniques that raise ethical or moral questions. Topics include issues pertaining to basic and applied research in human health, agriculture, and the environment. Students will research, present and lead weekly roundtable discussions on bioethical topics.

General Education Status: N/A

Credits: 1 **Recitation Hours:** 2

Learning Outcomes:

Upon successful completion of this course, students will be able to

1. Evaluate research literature and discuss and debate current topics in biotechnology.
2. Explain the applications of genetic engineering and biological techniques and related controversies.
3. Analyze the historical aspects of bioethics.
4. Identify ethical and professional behaviors expected in biotechnology industries.
5. Summarize the laws and regulations governing intellectual property and patents.

Course Content Areas:

Introduction to Biotechnology and Bioethics

Scope and Ethics of Biotechnology

Overview of Basic Techniques

Regulation, Patents, Publishing

Applications of Biotechnology

Microbial Biotechnology, Bioremediation

Bioterrorism and Defense

Vaccine Development and Vaccination

Aquatic Biotechnology

Transgenic Plants and GM Foods

Transgenic Animals, Cloning, Stem Cells

Human Reproductive Technology

Genomics and Bioinformatics

Human Genome Project

Gene Therapy and Editing (CRISPR)

Forensics, DNA Profiling and Privacy