

# BIOTECHNOLOGY (BT)

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## BT-101 Introduction to Forensic Sciences

**LASC Categories:** NSP, HBS, LAB

**Prerequisites:** Math placement code of 3 or higher.

Survey of forensic case studies and the laboratory techniques used to solve crimes including microscopy, chromatography, ballistics and DNA analysis.

Every year. 4 Credits

## BT-240 Research Experience for Undergraduates

Lab and/or field based research on a specific research topic under the supervision of a faculty member. Permission of instructor and department chair required.

Fall and Spring. 1-6 Credits

## BT-350 Genomics

**Prerequisites:** BI-141 and BI-203.

This course will examine the structure and function of genomes, as well as the tools and techniques of this multidisciplinary and growing field, with emphasis on how bioinformatic approaches can be utilized to address biological problems at the level of the entire genome. A major topic will be the application of computer-based techniques for the identification, comparison, and analysis of genomes and their products. Three lecture hours and three laboratory hours per week.

Fall and Spring and every 2-3 years. 4 Credits

## BT-360 Introduction to Bioprocessing

**LASC Categories:** NLL

**Prerequisites:** BI-204 (or BI-206 and BI-212) with a grade of C- or higher as a prerequisite or CH/BI-410 as a corequisite .

This laboratory course covers the process development and manufacturing of biologics. It includes process development, upstream, downstream and other topics central to large scale production. At the end of the course, students will see the importance of every step from discovery to bulk fill in providing safe drugs to market.

Fall only and every 2-3 years. 4 Credits

## BT-375 Tissue Culture

**LASC Categories:** NLL

**Prerequisites:** BI-204 (or BI-206 and BI-212) and CH-210 with grades of C- or higher.

A review of the methods of animal and plant tissue culture. Media preparation, aseptic techniques and cell culture technology. Three lecture hours and three laboratory hours per week.

Spring only and every year. 4 Credits

## BT-376 Biotechnology

**LASC Categories:** NLL

**Prerequisites:** CH-120, CH-121, BI-141 and BI-204 (or BI-206 and BI-212) with grades of C- or above.

Principles, applications of recombinant DNA (molecular/microbial aspects). The Biotechnology industry including bioreactor manufacturing standards and government rules. Three lecture hours and three laboratory hours per week.

Fall only and every year. 4 Credits

## BT-378 Bioinformatics

**LASC Categories:** NLL

**Prerequisites:** BI-141 and BI-203 with a grade of C- or above.

Provides an overview of Bioinformatics including database structure, genomics, computational biology and proteomics. Three lecture hours and three laboratory hours per week.

Every 2-3 years. 4 Credits

## BT-408 Directed Study: Biotechnology

Directed study offers students, who because of unusual circumstances may be unable to register for a course when offered, the opportunity to complete an existing course with an established syllabus under the direction and with agreement from a faculty member.

Other or on demand. 3 Credits

## BT-410 Biotechnology Seminar

**LASC Categories:** CAP

Up-to-date developments in Biotechnology; reparation and presentation of technical literature. Students will study new techniques and procedures used by the industry.

Spring only and every year. 1-4 Credits

## BT-440 Advanced Research Experience

**Prerequisites:** BI-205. Instructor permission required. Junior/Senior standing required.

Advanced lab and/or field based research on a specific research topic under the supervision of a faculty member. Permission of instructor and department chair required.

Fall and Spring. 1-6 Credits

## BT-450 Internship in Biotechnology

Qualified upper-level biotechnology majors can learn experimental techniques by working in a company laboratory or a professional manufacturing environment. Permission of faculty sponsor and department chair required.

Fall and Spring. 3-6 Credits