

BIOL 042: Bio-Techniques

Bio-techniques, a three-week credit bearing training course, consists of online and hands-on laboratory components. The course examines the fundamental concepts underlying biomedical science as well as principles and methods of scientific techniques commonly used in molecular biology labs. Additionally, during the 5-day lab sessions, students will practice some of these techniques and learn when and how to apply these techniques when designing their own experiments.

Online: Basic concepts of molecular and cell biology; Principles and methods of experimental techniques used in a molecular biology laboratory

Laboratory: general lab safety, pipetting, microscope, mammalian cell culture, molecular cloning, bacterial transformation, nucleic acids and protein isolation, polymerase chain reaction, transfection, SDS-PAGE and Western blotting, bioinformatics tools

The goals of the course are to describe the characteristics of the major cellular macromolecules; explain the structure and function of major cellular components; build and hone critical thinking skills; gain a working knowledge of practical scientific techniques commonly used in a molecular biology research lab; and Brainstorm experimental design and best practices for technique applications

Students will earn 4 graduate credits through the FAES Academic Programs after successful completion of the course.

Credits: 4

Class Type: Graduate Course

Program: Biology, Genetics, and Medicine