

BIOLOGICAL TECHNOLOGY (BIOT)

BIOT C100 4 Units (54 lecture hours; 54 lab hours)

Introduction to Biological Technology Skills

Advisory: Successful completion of a mathematics class at least at the Math C030, Intermediate Algebra, level.

Grading Mode: Standard Letter

Transfer Credit: CSU.

A course designed to equip students with fundamental biological laboratory skills needed in a biotechnology laboratory. Students will learn good laboratory practices and current good manufacturing practices, participate in group meetings, receive laboratory projects, and use equipment similar to those found in biotechnology laboratories. Skills include proper industry laboratory notebook preparation, laboratory safety, DNA manipulation, bacterial handling for cloning, sterile technique, media preparation, and quality control protocols. Internet projects assigned to enhance learning of theory and methods. Letter Grade only.

BIOT C105 4 Units (54 lecture hours; 54 lab hours)

Biological Technology Skills 2

Prerequisite(s): BIOT C100 with a grade of C or better.

Grading Mode: Standard Letter

Transfer Credit: CSU.

A course in advanced biological laboratory techniques used in the biotechnology industry, with an emphasis on protein detection and analysis. Protein techniques include polyacrylamide gel electrophoresis, ELISA, Bradford assay, horizontal electrophoresis, column chromatography, Western blot, GFP characterization, affinity column, dialysis, protein standard curve, sonication, ion exchange column purification, and fraction analysis. DNA techniques include PCR, restriction digests, DNA purification, and Southern blot. Students will learn to use a spectrophotometer, plot standard curves, and use a microplate reader. Internet projects assigned to enhance learning of theory and methods (virtual DNA sequencing, reading output from a DNA sequencer, and entering sequences in BLAST database for DNA sequence comparison). Letter Grade only.