



BIO 127: Introduction to Biotechniques

This course provides an introduction to laboratory research techniques and background as to how they are used in a variety of medical, clinical and scientific disciplines. Students will gain theoretical background and practical experience in lab safety, solid and liquid measurement, solution preparation, protein and DNA concentration determination, DNA and protein gel electrophoresis, immunoblotting, ELISA and column chromatography. Good documentation, laboratory and manufacturing practices will be applied throughout the lab. This course emphasizes basic laboratory skills essential for beginning level employment in clinical, academic, and industrial biotechnology laboratories. Two lecture hours and three laboratory hours per week. Instructional Support Fee applies. Gen. Ed. Competencies Met: Scientific Reasoning and Discovery.

Course Student Learning Outcomes

After successful completion of this course, students should be able to: 1. Demonstrate appropriate chemical and biohazard safety procedures. 2. Maintain good documentation and quality control in laboratory. 3. Collect, analyze and present data from experimental procedures. 4. Identify and accurately use appropriate equipment for experimental procedures. 5. Perform calculations and produce accurate solutions. 6. Demonstrate skills necessary to produce and analyze recombinant DNA. 7. Demonstrate skills necessary to maintain and manipulate both bacteria and mammalian cells in culture. 8. Demonstrate skills necessary to isolate, separate, and analyze protein. 9. Identify and utilize DNA and protein databases.

Credits: 4

Program: Biology