

BOT 210 : Phytobiotechnology

Introduction to practical aspects of Plant Biotechnology. Topics include micropropagation techniques, such as plant tissue, cell and protoplast cultures: DNA-based technologies, such as DNA extraction, DNA sequencing, PCR; and methods of plant genetic engineering. This course is designed to train students for careers in advanced agriculture technology and industry.

Credits 4

Lab Hours 3

Lecture Hours 3

Designation

DB

DY

Recommended Preparation

High school biology or chemistry, MATH 24.

Prerequisites

Credit for or registration in BOT 101, or AG 152, or MICR 130 and MICR 140, or BIOL 171 and 171L. Placement into MATH 100 or higher.

Course Outcomes

- Apply the principles of genetics.
- Discuss and perform experiments including plant/bacterial/ human DNA/protein electrophoresis, Southern and Western blots, plant genetic engineering using biolistic bombardment and bacterial gene transformation.
- Apply bioinformatics and DNA sequencing.
- Discuss bioethical issues, risks and benefits of biotechnology.
- Produce lab reports using the standard scientific format.