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
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.
Program: Botany
Recommended:
High school biology or chemistry, MATH 24.
Student Learning 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.