

MFET241C : Computer-Integrated Manufacturing

A study of flexible industrial automation as it applies to product-producing industry. Particular emphasis is on numerical control, CAD/CAM, and computer-integrated manufacturing. The basic theory and application of these areas are studied. In the lab portion of the course, the student has the opportunity to set up, program, and operate aspects of a computer-controlled manufacturing system.

Credits 4

Lab/Practicum/Clinical Hours 3

Lecture Hours 3

Prerequisites

Students are required to pass prerequisite courses with a grade of C or higher. Exceptions apply; please consult your department chair.

MFET220C

Learning Outcomes

- The student will learn basic CNC programming techniques using manual G-code programming language.
- The student will learn to use CAM software in order to generate CNC programs (G-code) from CAD modeling data.
- The student will become familiar with simulation software. These include CNC programming and machine simulation, robotic setup, robotic programming, and simulation.
- The student will learn the basics of robotics and various programming methods.
- The student will become familiar with the concepts and components of hard and flexible automation.
- The student will learn about other automation concepts and components that comprise the CIM function.
- The student will function cooperatively and effectively in group settings on project or laboratory work.
- The student will produce technical documentation used to build and troubleshoot an advanced manufacturing process.
- The student will produce a product and/or design a manufacturing system using CAD/CAM/CNC or FMS tools.