

# MFET202C : Measurement and Control

Begins with the study of basic electronics (analog and digital) and electronic components (transistors, op-amps, SCR's). Electromechanical principles are introduced, leading to consideration of sensors and transducers used in production processes. Paralleling this sequence is the development of programming in Visual Basic. These two paths join during the second half of the course where programming logic controllers (PLCs) and relay ladder logic (RLL) are presented. In the lab, students gain hands-on experience with all hardware and software covered in the course.

**Credits** 4

**Lab/Practicum/Clinical Hours** 2

**Lecture Hours** 3

**Prerequisites**

*Students must pass all prerequisite courses with a grade of C or higher.*

PHYS135C

**Learning Outcomes**

- Learn the function and safe operation of basic electrical and electronics test equipment.
- Review of basic circuit theory.
- Apply electromechanical concepts in design and selection of systems.
- Have working knowledge of computer programming, with emphasis on industrial applications.
- Implement industrial transducers and controllers through the selection, setup, and calibration of measurement instrumentation.
- Conduct and document laboratory experiments.
- Use various software programs to solve engineering problems.