

EIMT 153 : AC/DC Systems and Equipment

Credits: 6

Class Hours: 12 lecture/lab

Prerequisites: "C" or higher or concurrent enrollment in EIMT 121. "C" or higher in EIMT 123.

Recommended: "C" or higher or concurrent enrollment in EIMT 151.

Description: This course is designed to advance the student into electrical principles of direct current and alternating current equipment. Emphasis is placed on the theory, operation, control, and power generation of alternative energy systems including photovoltaic, wind, and hydro systems.

Semester Offered: Fall, Spring (once every 3 semesters)

Course Student Learning Outcomes (CSLOs):

1. Recognize the electrical characteristics of a DC, AC single- and three-phase electrical systems, including operating voltages, power, and capacity.
2. Identify transformer characteristics and provide proper materials, to provide an energy efficient electrical installation that meets the required codes.
3. Use a variety of renewable energy systems in a NIDA lab setting.
4. Apply the use of DC, AC single-phase and three-phase motors and their applications and troubleshooting.
5. Operate variable speed drives and softstarts using educational electrical software.
6. Apply electrical equipment to other energy systems such as fluid power.
7. Evaluate PLC's software, DeviceNet wiring, and LabView Software for application in advanced electrical use.