MET 4502: Senior Design

2 Credit Hours

Prerequisite: MET 4501

Senior design capstone project for mechanical engineering technology. In teams students will define design projects and write a proposal for the synthesis and analysis of an open-ended mechanical engineering design project, including written and oral communication. Students will also be prepared to take the FE exam.

MTRE 1001L: Introduction to Mechatronics Engineering Laboratory

1 Credit Hours

Prerequisite: ENGR 1000

This course provides an introduction to robot hardware and software design through VEX Robotics team projects.

MTRE 2110: Electric Circuits and Machines

3 Credit Hours

Prerequisite: PHYS 2212

This course covers the basics of circuitry including resistors, capacitors, and inductors in DC and AC circuits. AC power is examined so that devices that generate, transform, switch, and protect electrical power can be covered. Basic circuit analysis includes resistive circuits, voltage and current sources, analysis methods, network theorems, energy storage elements, and AC steady state analysis. DC and Stepper Motors construction with proper sizing and gearing concepts will be studied to select them based on application.

MTRE 2110L: Electric Circuits and Machines Laboratory

1 Credit Hours

Concurrent: MTRE 2110

This course covers the basics of circuitry including resistors, capacitors, and inductors in DC and AC circuits. AC power is examined so that devices that generate, transform, switch, and protect electrical power can be covered. Basic circuit analysis includes resistive circuits, voltage and current sources, analysis methods, network theorems, energy storage elements, and AC steady state analysis. DC and Stepper Motors construction with proper sizing and gearing concepts will be studied to select them based on application. Laboratory exercises reinforce the theoretical concepts presented in class and provide various opportunities to become proficient with standard instrumentation used in electrical engineering.