

MTRE 3110: Fluid Power

2 Credit Hours

Prerequisite: ENGR 2214, MATH 2306, and Engineering Standing

This course provides a fundamental understanding of the physical principles of fluid power, along with practical working knowledge of the components utilized in designing, installing, operating, and maintaining hydraulic and pneumatic power systems.

MTRE 3110L: Fluid Power Laboratory

1 Credit Hours

Concurrent: MTRE 3110

This is a laboratory course designed to complement the Fluid Power fundamental topics also covered in MTRE 3110. The hands-on practice of pneumatics and hydraulic circuit design and analysis are covered.

MTRE 3398: Internship in Mechatronics Engineering

1-4 Credit Hours

Prerequisite: Engineering Standing and Department Chair approval.

This course provides workplace experience related to mechatronics engineering under the management of the employer supervisor and an academic instructor. The goal is for students to enhance their academic classroom skills with practical experiences in a real-world environment.

MTRE 3610: Modeling and Feedback Control of Dynamic Systems

3 Credit Hours

Prerequisite: MATH 2202 and (MTRE 2110 or EE 2301 or EE 2305 or CS 3503) and PHYS 2211 and Engineering Standing

This is a control system course tailored for mechatronics engineering students. While it covers all topics in a traditional control system course, some additional topics, such as modeling of mechatronics systems, controller design of mechatronics systems, and vibration control, are covered as well.