MTRE 2290: Special Topics - Mechatronics

1-6 Credit Hours

Special Topics course for Mechatronics

MTRE 2610: Intermediate Programming for Mechatronics

3 Credit Hours

Prerequisite: (MATH 1190 or (MATH 1179 and MATH 1189)) and ((CSE 1321 or ME 1311) and CSE 1321L)

This intermediate programming course covers programming topics relevant for Mechatronics Engineering, using tools such as C++, Arduino, and Python. Object-oriented programming techniques are introduced such as encapsulation, classes, inheritance, and operator overloading. Other course components include basic numerical methods and visualization of data in two and three dimensions. Laboratory exercises focus on programming relevant to mechatronics such as acquiring analog, digital, and camera sensor data, motor control, pneumatics, etc.

MTRE 2710: Intermediate Programming for Mechatronics

2 Credit Hours

Prerequisite: MATH 1190 and ((CSE 1321 or ME 1311) and CSE 1321L)

This intermediate programming course covers programming topics relevant for Mechatronics Engineering, using tools such as C++, MATLAB, Arduino, and Python. Object-oriented programming techniques are introduced such as encapsulation, classes, inheritance, and operator overloading. Other course components include basic numerical methods and visualization of data in two and three dimensions.

MTRE 2710L: Intermediate Programming for Mechatronics Laboratory

1 Credit Hours

Concurrent: MTRE 2710

This is a laboratory course designed to complement the intermediate programming for mechatronics also covered in MTRE 2710. This intermediate programming course covers programming topics relevant for Mechatronics Engineering, using tools such as C++, MATLAB, Arduino, and Python. Object-oriented programming techniques are introduced such as encapsulation, classes, inheritance, and operator overloading. Other course components include basic numerical methods and visualization of data in two and three dimensions. Laboratory exercises focus on programming relevant to mechatronics such as acquiring analog, digital, and camera sensor data, motor control, pneumatics, etc.