

RAET 220C : Robotics and Automation II

Covers advanced topics that include the integration of robots and CNC machines into manufacturing cells. The integration of automation equipment such as PLCs, motion control devices, and vision systems is also covered. The lab work includes the use of PLCs, robots, CNC machines, and other automation equipment. Students enrolled in this course will be charged a \$50 materials fee.

Credits 4

Lab/Practicum/Clinical Hours 4

Lecture Hours 2

Prerequisite Courses

RAET 205C

RAET 210C

Learning Outcomes

- Discuss the use of electromechanical systems with robots.
- Explain the function of control systems used with robots.
- Describe the type of motion that rotary electric actuators produce.
- Discuss image processing functions of acquisition, preprocessing, analysis, and interpretation used with machine vision systems.
- Discuss the implications of robotics technology on society to include job displacement, retraining of workers, and the need for computer literacy.
- Describe and perform the integration of robots and CNC machines into manufacturing cells.
- Describe and use motion control devices, such as motors and sensors, conveyors and parts feeder mechanisms
- Set up and use of vision systems as well as other automation equipment used in manufacturing.
- Demonstrate and integration of automation equipment such as PLCs, motion control devices, and vision systems.