



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Technology, Structure and Applications for Controls

ENGRTEC 3600

Credit Hours:

3.00 - 3.00

Course Levels:

Undergraduate (1000-5000 level)

Course Components:

Lecture

Lab

Course Description:

This course communicates the structure of a manufacturing organization, the technology and systems in each level of the organization and the roles in the automation, control, and monitoring of automation manufacturing systems. It provides insight in the types of manufacturing systems, equipment/ machinery, sensors/ control devices and how to develop code for these systems for an integration.

Prerequisites and Co-requisites:

Prereq: 3900.

Course Goals / Objectives:

- Understand the manufacturing organization, technology, business systems, and goals of each segment
 - Identify the types of manufacturing processes and equipment
 - Design the integration of sensors, instruments and control devices into a control schema
 - Bring all the pieces of automation systems together to deliver business value
 - Align emerging and new technologies to business value across the organizational structure
 - Function effectively on a team
 - Demonstrate an understanding of manufacturing terminology and process improvement methods
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Course Topics:

- Introduction to ISA 95 The organizational structure
 - Sensors, Instrumentation and Control
 - Integrating the control systems, SCADA, and equipment
 - The concepts of manufacturing equipment to a production line
 - Aligning Technology to business outcomes across the organization
 - Analytics and the Digital Thread
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Designation:

Required