THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Industrial Automation PLC1

ENGRTEC 3900

Credit Hours:
3.00 - 3.00

Course Levels:
Undergraduate (1000-5000 level)

Course Components:
Lecture
Lab

Course Description:
Industrial Automation PLC1 is a 3-credit hour course designed as the first of two courses intended to provide the students with skills in industrial automation that can be applied in a variety of technical fields related to manufacturing.

Prerequisites and Co-requisites:
Prereq: 2300; and CSE 1222 or 1223; and Math 1155 or 1172.

Course Goals / Objectives:
- Understand commercially available Programmable logic controller system
- Understand requirements to design a PLC system.
- Communicate with stakeholders possessing various levels of expertise in the subject.
- Understand how test instruments can be used in PLC systems to measure system parameters and interpret results.
- Be able to function effectively as a member as well as a leader on technical teams.
- Understand how PLC's would be used in a manufacturing process to automate a function and the important considerations in automation.

Course Topics:

- Introduction to PLC and Hardware Components
- Number Systems and Digital Logic
- Basics of PLC Programming
- PLC Wiring and Ladder Logic Programs
- Programming Timers, Counters, Sequencers and Shift Registers
- PLC Program Control, Data Manipulation and Math Instructions
- PLC Installation, Editing and Troubleshooting
- PLC Process Control System
- Team Project and Presentations

Designation:

Required