

Master Syllabus

EGR 2252 - Teach Pendant Robot Programming

Division: Science, Mathematics and Engineering

Department: Automation and Control Technology

Credit Hour Total: 2.0

Lecture Hrs: 1.0 **Lab Hrs:** 2.0

Prerequisite(s): EGR 1128

Date Revised: October 2013

Course Description:

Introduction to Teach Pendant Programming (TPP) for robots, including TPP program development on the teach pendant and through offline programming software. Programs, tested using Fanuc robots, will be written for motion control, input/output activation and palletizing. One classroom, two lab hours per week.

General Education Outcomes:

- ▣ Critical Thinking/Problem Solving
- ▣ Information Literacy

Course Outcomes:

Robot decision making

Develop programs that require decisions to be made on various I/O. Also create looping and branching statements in order to repeat a portion of the program.

Assessment Method: Locally developed exams

Performance Criteria: Score greater than 70%

Assessment Method: Simulations

Performance Criteria: Score "17.5" or higher on five by five rubric

Robot motion programming

Develop programs, both on the teach pendant and off-line, that cause the robot to move along the desired path at the appropriate speed.

Assessment Method: Locally developed exams

Performance Criteria: Score greater than 70%

Assessment Method: Simulations

Performance Criteria: Score "17.5" or higher on five by five rubric

Palletizing

Use counters, variables, and position registers to minimize the number of taught points required for a palletizing and depalletizing program.

Assessment Method: Locally developed exams

Performance Criteria: Score greater than 70%

Assessment Method: Simulations

Performance Criteria: Score "17.5" or higher on five by five rubric

Robot communication programming

Develop programs that permit the robot to communicate with any peripheral device (stack light, PLCs, CNC, mills, etc.).

Assessment Method: Locally developed exams

Performance Criteria: Score greater than 70%

Assessment Method: Simulations

Performance Criteria: Score "17.5" or higher on five by five rubric

Outline:

Teach pendant basics
Writing programs for the teach pendant
Writing programs in off-line software
Using basic motion statements
Communicating with other automation devices