

## Master Syllabus

### EGR 2278 - Automation & Control Capstone

**Division:** Science, Mathematics and Engineering

**Department:** Automation and Control Technology

**Credit Hour Total:** 3.0

**Lecture Hrs:** 1.0 **Lab Hrs:** 4.0

**Prerequisite(s):** EGR 2231 AND EGR 2252 AND EET 2282

**Date Revised:** October 2012

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### Course Description:

Project-based review of robotic workcell system design, layout and integration of related industrial systems, and skills from the following areas: robots and programming languages, electronic systems, component installation, troubleshooting, mechanical repair and preventative maintenance. Additional focus on graphics, work processing, analytical and simulation tools, assembly, testing, troubleshooting and repair of a functional robot workcell. One classroom, four lab hours per week.

### General Education Outcomes:

- Critical Thinking/Problem Solving Competency

### Course Outcomes:

#### Design and document robotic workcell

Solve a problem through design and documentation using robotics.

**Assessment Method:** Performance appraisals

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

#### Communicate in a technical environment

Report on project process and results.

**Assessment Method:** Performance appraisals

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

#### Construct and troubleshoot robotic system

Construct robotic system as designed and modify to function as needed.

**Assessment Method:** Performance appraisals

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

### Outline:

Project design and documentation  
Project construction and troubleshooting  
Testing and prove-in  
Reporting