

IM 225 Robotics 1

Credit Hours: 3

Scheduled hours per week

Lecture:2

Lab: 2

Other:

Catalog Course Description: This course covers the basic operation of a robotic arm. It will include use and operation of a teach pendant to program the robot and will be intermixed with tasks required to set up specific applications, test, run, and refine these programs. The course also includes robot safety procedures.

Pre-requisites: None

Co-requisites: None

Course Learning Outcomes:

- Power up and jog the robot
- Recover from common program and robot faults
- Execute production operations
- Create, modify, and execute a teach pendant program
- Create, modify, and execute a material handling program
- Create and execute MACROS
- Monitor, force, and simulate input and output signals
- Backup and restore individual programs and files

Topics to be studied:

- Safety
- Servo fault recovery
- Cartesian – Frames
- Jogging robot (multiple modes)
- Program editing
- Input and output overview
- MACRO setup

Relationship of Course to Program or Discipline Learning Outcomes:

Course delivers hands-on training in robotic programming and operation. Aligns with other program courses to give students experience with logic programming and input/output addressing. For general education courses, a listing of the general education competencies that are met.)

Relationship of Course to General Education Learning Outcomes:	
Composition and Rhetoric Students illustrate a fundamental understanding of the best practices of communicating in English and meet the writing standards of their college or program-based communication requirements.	
Science & Technology Students successfully apply systematic methods of analysis to the natural and physical world, understand scientific knowledge as empirical, and refer to data as a basis for conclusions.	X

<p>Mathematics & Quantitative Skills Students effectively use quantitative techniques and the practical application of numerical, symbolic, or spatial concepts.</p>	<p>X</p>
<p>Society, Diversity, & Connections Students demonstrate understanding of and a logical ability to successfully analyze human behavior, societal and political organization, or communication.</p>	
<p>Human Inquiry & the Past Students interpret historical events or philosophical perspectives by identifying patterns, applying analytical reasoning, employing methods of critical inquiry, or expanding problem-solving skills.</p>	
<p>The Arts & Creativity Students successfully articulate and apply methods and principles of critical and creative inquiry to the production or analysis of works of art.</p>	
<p>5/3/2016</p>	

Special requirements of the course:

None

Additional information:

None

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