

Robotics/Mechatronics Technology

Robotics/Mechatronics Technology Major

ASSESSMENT OF STUDENT LEARNING

Measures	Gen Ed #1	Gen Ed #2	Gen Ed #3	Gen Ed #4	Gen Ed #5	Program #1	Program #2	Program #3	Program #4	Program #5	Program #6	Program #7	Program #8	Program #9
E-portfolio	X		X											
CAAP	X	X												
Student Satisfaction Survey	X	X	X											
Advisory Board Survey	X	X	X											
<i>Rob 1010</i>	X	X		X		X		X	X		X	X	X	X
Rob 1020	X	X		X		X	X	X	X	X	X	X	X	X
Rob 2230 Troubleshooting	X	X		X		X	X	X	X	X	X	X	X	X

Date created: 5/10/06

Date modified: October 2008

PROGRAM OUTCOMES AND GOALS

1. Safe start-up, synchronize and jog ABB, AIRCO, ASEA, FANUC, GMF, and IBM robot systems

2. Design, install and troubleshoot multiple robot systems.

ABB, AIRCO, ASEA, FANUC, GMF, IBM robot systems

3. Learn commonly used terminology for robotic and PLC systems.

ABB, AIRCO, ASEA, FANUC, GMF, IBM robot systems

Allen Bradley – MicroLogix 1000, SLC 500, PLC 5, Siemens S7 systems

4. Learn electronic, mechanical, and electro-mechanical parts of a robotic system.

ABB, AIRCO, ASEA, FANUC, GMF, IBM robot systems

5. Advanced troubleshooting robotic systems.

ABB, AIRCO, ASEA, FANUC, GMF, IBM robot systems

6. Integrate a robotics system (teach pendant and PLC programs) with programmable logic controllers.

ABB, AIRCO, ASEA, FANUC, GMF, IBM robot systems

Allen Bradley – MicroLogix 1000, SLC 500, PLC 5, Siemens S7 systems

Pilot devices, capacitive and inductive proximity and photo switches.

7. Be exposed to basic and advanced electrical wiring schemes of robots and PLC's.

ABB, AIRCO, ASEA, FANUC, GMF, IBM robot systems

Allen Bradley – MicroLogix 1000, SLC 500, PLC 5, Siemens S7 systems

PROGRAM OUTCOMES AND GOALS

8. Read and interpret electrical wiring diagrams and symbols for all systems

ABB, AIRCO, ASEA, FANUC, GMF, IBM robot systems

Allen Bradley – MicroLogix 1000, SLC 500, PLC 5, Siemens S7 systems

Pilot devices, capacitive and inductive proximity and photo switches.

9. Install and troubleshoot Programmable Logic Controllers

Allen Bradley – MicroLogix 1000, SLC 500, PLC 5, Siemens S7 systems

GENERAL EDUCATION LEARNING OUTCOMES

1. **Communicate effectively**
2. **Evaluate arguments in a logical fashion**—Competence in analysis and logical argument are explicit learning goals for most general education programs, although these skills go by a variety of names (e.g., critical thinking, analysis, logical thinking, etc.). **Students will be able to demonstrate competence in problem solving in communication, mathematics, and in team settings.**
3. **Demonstrate an understanding of cultural differences and the knowledge of how to work effectively in a global and diverse culture and society.**
4. **Employ the methods of inquiry characteristic of natural sciences, social sciences, mathematics, and the arts and humanities;** general education introduces students to methods of inquiry in several fields of study and thereby prepares students to integrate information from different disciplines.
5. **Engage in our democratic society**—one of the overarching goals of general education is to prepare students to be active and informed citizens; the development of a disposition to participate in and contribute to our democracy is of equal importance to the goal of having the skills to do so intelligently.

Learning Outcomes 1-3 will be measured for all students through the CAAP assessment (Writing, Mathematics, and Critical Thinking) and through the e-portfolio (Writing and Cultural Diversity). Outcomes 1 and 2 will also be assessed through course and program assessment for applied degree programs.

Learning Outcomes 1-5 will be assessed in specific courses included in the Transfer Module.

