

Course Syllabus

Subject: Robotics

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Course Description

Robotics is designed to assist students in the following areas of career exploration for technology, and related employment opportunities, application of computer programming skills with computer - controlled devices and Drone Technology. The exploration of a variety of robotic manipulator designs based on work envelopes and motions produced by model autonomous mobile robots. The introduction of robotics technology and robot project construction tasks, integration of computer - controlled equipment in developing flexible manufacturing systems, identification of high-tech skills needed for today's changing workplace, and to develop a team-work concept for problem solving. Student achievement of these goals will be obtained through formal discussion / note taking procedures, active participation in class discussions, computer applications, IMC and internet research assignments and presentations, completion of homework assignments, laboratory experiments, and technology learning activities. The Design, building and flying of Unmanned Aerial System will also be an integral part of the course.

Course Outline

1. Intro to Course / Lab Safety / Careers
2. Fundamentals of Robotics
3. Programming the Robot
4. Industrial Applications
5. Power Supplies and Movement Systems
6. Drone Technology
7. Control Systems and Maintenance
8. Mobile Robots, Construction, Programming, & Applications
9. Robots in Future of Manufacturing

Grading Policy

The grade for each student will be based on the following criteria:

- Classroom Performance / Participation*
- Homework/Classwork
- Quizzes
- Projects/Tests

*Your work in class is just as important as the project itself; therefore you will be given a Daily classroom performance grade.

The classroom performance grade will consist of the following criteria:

Willingness to participate, ability to follow classroom rules and procedures, following safety procedures, proper use of equipment, being prepared for class, and following clean-up procedures.