Piedmont Technical College Course Syllabus

COURSE INFORMATION

Course Prefix/Number: AMT 205

Title: Robotics and Automated Control II

Responsible Division: Engineering and Industrial Technology

Last Day to Withdraw from this Course: For the last date to withdraw from this course, consult the current *Student Calendar*.

Course Description:

For course, credit hour, pre-requisite(s) and co-requisite(s) information, visit the Detailed Course Information page: www.ptc.edu/courses/AMT205 .

Textbook and Other Materials:

For textbook information and additional required and/or supplemental materials, visit the college bookstore (www.ptc.edu/bookstore).

Proctored Examinations:

Proctored examinations for distance learning courses taken at non-PTC campuses may require a proctoring fee for each exam taken.

COURSE POLICIES

Course policies are available online through the *Academic Catalog* and *Student Handbook*. Visit the Course Policies page (www.ptc.edu/syllabus/policies) for a detailed list of important policies and more information.

GRADE POLICY

Detailed grading policy information can be found on the Grading Policy webpage (http://www.ptc.edu/grading-policy). Final grade appeal information is available in the *Academic Catalog* (http://www.ptc.edu/catalog/).

ACCOMMODATIONS

Accommodations for ADA:

Information is available on the Student Disability Services webpage (http://www.ptc.edu/ada).

RATIONALE

Why do I need this course?

For industry to keep pace in world markets, they must keep tighter control on their machine processes. Automated controls and systems provide this interface to improved manufacturing and quality control.

PROGRAM INFORMATION

For program information including required courses, program learning outcomes, gainful employment information and advisement information, refer to the Academic Program webpage. Go to Academics (http://www.ptc.edu/academics), select your program, and then select Credentials Offered.

COURSE STUDENT LEARNING OUTCOMES

Upon successful completion of this course and/or clinical, each student will be able to:

- Connect various teach pendants.
- Develop controller file operations.
- Organize in depth robot programs and create operations within them.
- Recognize and construct robot safety circuits.
- Integrate HMI with robot.
- Write and compile a palletizing routine applicable to industry.
- Produce circuits that include Boolean logic.

GENERAL EDUCATION COMPETENCIES

Piedmont Technical College General Education Competencies for All Graduates:

This course may address one or more of the following General Education Competencies (assessment will be stated when applicable):

Communicate effectively.

Assessment:

Students will be completing lab work in groups. They will also participate in flipped classroom events and be placed in an instructional role. Grading will be based on lab submission rubric.

Apply mathematical skills appropriate to an occupation.

Assessment:

Students will engage in activities that will require performing specific calculations and comparing solved values against measured values to find faults and to test accuracy. The general education assessment will be accomplished though laboratory assignments. Grading will be based on homework and class work sheets.

Employ effective processes for resolving problems and making decisions.

Assessment:

Students will be given problems similar to ones faced in industry and asked to troubleshoot it and implement the solutions. Grading will be based on lab submission rubric.

Demonstrate the basic computer skills necessary to function in a technological world.

Assessment:

Students will turn in laboratory reports in Microsoft Word as well as navigate robot programming software.

To validate proficiency in the general education competencies, students in some programs will be tested using Work Keys.