



COURSE SYLLABUS

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COURSE: **ATR 112** **INTRODUCTION TO AUTOMATION**

HOURS: Lecture: 2 Lab/Shop: 3 Work Exp/Clinical: 0 Credits: 3

COURSE DESCRIPTION:

This course introduces the basic principles of automated systems and describes the tasks that technicians perform on the job. Topics include the history, development, and current applications of robots and automated systems including their configuration, operation, components, and controls. Upon completion, students should be able to understand the basic concepts of automation and robotic systems.

PREREQUISITE(S): ELN 260

COREQUISITE(S): None

TEXTBOOK(S) & OTHER SPECIAL REQUIREMENTS:

Open Educational Resources (OER) are listed in the course Moodle.

STUDENT LEARNING OUTCOMES:

Upon successful completion of this course, the student will be able to:

1. Describe the basic anatomy and attributes of an industrial robot.
2. Explain the difference between basic hydraulic and pneumatic systems.
3. Explain the use of electrical motors and mechanical drives in automation applications.
4. Discuss the Servo and non-servo systems.
5. Describe the basic function of a sensor in an automated system.
6. Program industrial robot for basic operation.
7. Use the PLC to automate a simple manufacturing process.
8. Demonstrate strong communication, teamwork and leadership skills.

*****Please refer to the online version of the Richmond Community College Program & Course Catalog and the Student Handbook for current academic and general policies.**