
COURSE SYLLABUS

Division: Workforce Services

Revised: 1/2015

Curricula in Which Course is Taught: Integrated Systems Technology

COURSE NUMBER AND TITLE: IND 243 - MECHATRONICS

Credit Hours: 3

Hours/Wk Lecture: 3

Hours/Wk Lab: 0

Lec/Lab Comb: 3

I. Catalog Description

An introductory course for students with little or no prior experience in the subject matter. Course will be delivered through approximately 50% lecture and reading and 50% hands-on experimentation. The course will utilize training equipment at RCATT, including Amatrol and Festo trainers in electricity, motors, controls, communication, PLCs, and mechatronics. In addition, robotics will be taught using Mitsubishi and Intelitek robots.

II. Relationship of the course to curricula objectives in which it is taught.

This course is designed to build confidence in the student and to stimulate a desire to learn about and possibly consider a career path in industrial automation and robotics.

III. Required background:

This course is intended for anyone with an interest in and desire to learn the subject matter. No prior knowledge of the subject matter is required.

IV. Course Content

- Electricity and Electrical Equipment
- Relays and Sensors
- Pneumatics,
- Basic Circuits
- PLC Logic
- Intro to Robotics

V. LEARNER OUTCOMES

VI. EVALUATION

<p>Bennett Mechanical</p> <ul style="list-style-type: none">• Metric System<ul style="list-style-type: none">a. Basics of metric system with units and conversions• Measurement<ul style="list-style-type: none">b. Outside diameterc. Inside diameterd. Steps and depthe. Exercises to measure various materials and object sizes• Electricity and Electrical Equipment<ul style="list-style-type: none">a. Basic Electricityb. Relaysc. Multimeterd. Sensors• Mechanical Power and Applications<ul style="list-style-type: none">a. Pneumaticsb. Basic circuits• Automation Logic<ul style="list-style-type: none">a. PLC Logic• Introduction to Robotics	<ul style="list-style-type: none">• Homework/class work• Quizzes• Tests• Midterm exam• Final exam• Class Participation
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The course supports the following education objectives:

- A. DCC Educational Objectives
1. Communication
 2. Critical Thinking
 3. Computational and Computer Skills