

SYLLABUS

LAST REVIEW	Spring 2021
COURSE TITLE	Motor Controls
COURSE NUMBER	BEMT 0253
DIVISION	Career and Technical Education
DEPARTMENT	BEMT
CIP CODE	46.0401
CREDIT HOURS	2
CONTACT HOURS/WEEK	Class: 2
PREREQUISITES	None

COURSE DESCRIPTION

Students will have the opportunity to install manual and magnetic starters and contactors. The photoelectric and proximity controls and controls for agricultural and commercial equipment will be studied.

PROGRAM LEARNING OUTCOMES

Students will demonstrate an adherence to safety standards and proficiency in the installation or repair of residential electrical, plumbing, HVAC, exterior building materials, roofing, irrigation systems, landscape/hardscape, concrete placement and finish, masonry install and repair.

TEXTBOOKS

<http://kckccbookstore.com/>

METHOD OF INSTRUCTION

A variety of instructional methods may be used depending on content area. These include but are not limited to lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:

- I. Follow manufactures instructions and diagrams and install manual and magnetic starters and contactors
- II. Follow Manufactures instructions and diagrams and install photoelectric controls.
- III. Follow Manufactures instructions and diagrams and install proximity controls.

- IV. Install controls for commercial equipment.
- V. Control Circuit Schematic Components
- VI. Magnetic Control
- VII. Overloads, Magnetic Starters - Two Wire Circuits
- VIII. Pilot Lights
- IX. Multiple Pushbuttons
- X. Selector Switches
- XI. Reversing Controls - Three Phases
- XII. Reversing Controls - Garage Door - Single Phase
- XIII. Three Phase Motors-Way and Delta Configurations
- XIV. Dual Voltage - Three Phase Motors

COURSE LEARNING OUTCOMES

Upon successful completion of this course, the student will:

- A. Follow manufacturer's instructions and diagrams and install manual and magnetic starters and contactors.
- B. Follow manufacturer's instructions and diagrams and install photoelectric controls.
- C. Follow manufacturer's instructions and diagrams and install proximity controls.
- D. Install controls for commercial equipment.
- E. Define common abbreviations.
- F. Explain devices and symbols.
- G. Use control circuit schematic components.
- H. Explain magnetic control.
- I. Use lighting contractors.
- J. Overloads, magnetic starters - two wire circuits.
- K. Light-up pilot lights.
- L. Use multiple pushbuttons.
- M. Explain selector switches.
- N. Use reversing controls - three phases.
- O. Explain reversing controls - garage door - single phase.
- P. Use three phase motors-wye and delta configurations.
- Q. Use dual voltage - three phase motors.

ASSESSMENT OF COURSE LEARNING OUTCOMES AND COMPETENCIES

Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

COLLEGE POLICIES AND PROCEDURES

Student Handbook

<https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf>

College Catalog

<https://www.kckcc.edu/academics/catalog/index.html>

College Policies and Statements

<https://www.kckcc.edu/about/policies-statements/index.html>

Accessibility and Accommodations

<https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html>.