

Course discipline/number/title: FST 1631: Electrical Lab I

- A. CATALOG DESCRIPTION
1. Credits: 3
 2. Hours/Week: 6
 3. Prerequisites (Course discipline/number): MATH 1015
 4. Other requirements: None
 5. MnTC Goals (if any): NA
- B. COURSE DESCRIPTION: This course covers the basic theory, operation, and practical applications of industrial electronics, electric motors, AC-DC circuits and general wiring diagrams in commercial applications. In this course students will also learn motor control requirements including: control symbols, line diagrams, wiring diagrams, inlays, contacts, and starters.
- C. DATE LAST REVISED (Month, year): February, 2022
- D. OUTLINE OF MAJOR CONTENT AREAS:
1. Low-voltage practice boards
 2. Low-voltage motor starters
 3. Transistors, diodes, and other electrical components
 4. Single-phase and three-phase motors
- E. LEARNING OUTCOMES (GENERAL): The student will be able to:
1. Identify electronic symbols.
 2. Identify transistor elements.
 3. Test transistors.
 4. Construct a SCR DC power control circuit.
 5. Determine capacitor start motor characteristics.
 6. Identify control circuits.
 7. Connect two-wire control circuit.
 8. Connect three-wire control circuits.
 9. Connect time-delay-on energizer timer circuit.
 10. Exhibit safe work habits.
- F. LEARNING OUTCOMES (MNTC): NA
- G. METHODS FOR EVALUATION OF STUDENT LEARNING: Methods may include but are not limited to:
1. Tests
 2. Activities
- H. RCTC CORE OUTCOME(S). This course contributes to meeting the following RCTC Core Outcome(s): Critical Thinking. Students will think systematically and explore information thoroughly before accepting or formulating a position or conclusion.
- I. SPECIAL INFORMATION (if any):
Attendance is crucial