

**Course discipline/number/title: FST 1651: Electrical Lab II****A. CATALOG DESCRIPTION**

1. **Credits:** 3
2. **Hours/Week:** 6
3. **Prerequisites (Course discipline/number):** MATH 1015 or MATH 1016 or MATH 1115
4. **Other requirements:** Fast Program Admission
5. **MnTC Goals (if any):** NA

- B. COURSE DESCRIPTION:** This course provides the student with advanced motor control applications including jogging, counting, braking, plugging, reduced voltage starting, and latching relays. The theory, operation, installation, and practical application of programmable controllers are covered. Solid-state motor controls are also covered. Finally, the application and characteristics of single-phase and three-phase transformers are covered. FAST Program Admission and completion of all FST I courses with a grade of C or better.

- C. DATE LAST REVISED (Month, year):** March, 2025

**D. OUTLINE OF MAJOR CONTENT AREAS:**

1. Programmable controllers
2. Electric motors
3. Electrical components and circuits

**E. LEARNING OUTCOMES (GENERAL):** The student will be able to:

1. Connect auxiliary contact interlock with reversing controls.
2. Connect mechanical interlock with reversing controls.
3. Connect magnetic starters.
4. Connect automatic sequence control.
5. Describe and connect jogging circuits.
6. Connect timer circuits.
7. Connect two motors for sequence operation.

**F. LEARNING OUTCOMES (MNTC):** NA**G. METHODS FOR EVALUATION OF STUDENT LEARNING:** Methods may include but are not limited to:

1. Ability to demonstrate hands on concepts
2. Practical quizzes and tests

- 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):** None