

Course discipline/number/title: FST 1611: Basic Electricity**A. CATALOG DESCRIPTION**

1. **Credits:** 2
2. **Hours/Week:** 2
3. **Prerequisites (Course discipline/number):** MATH 1015 or MATH 1016 or MATH 1115
4. **Other requirements:** None
5. **MnTC Goals (if any):** NA

B. COURSE DESCRIPTION: This course covers the basic concepts of AC and DC electricity. Included are voltage, current, resistance, and power usage in series, parallel, and combination circuits. Safety while working on high voltage circuits and equipment will also be discussed. To enroll in this course a student must be admitted into the FAST Program and have completed all FST 1500 level courses with a grade of "C" or above.

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

D. OUTLINE OF MAJOR CONTENT AREAS:

1. Theory of Electricity
2. Simple Circuits
3. Resistance, Voltage, and Amperage
4. Electrical Safety
5. Electrical Meters and Tools

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

1. Describe resistance, voltage, and current.
2. Describe electrical power.
3. Describe magnetic and manual starters
4. Calculate resistance, voltage, and current in series and parallel circuits.
5. Calculate resistance, voltage, and current in a combination circuit.
6. Calculate voltage drop and power to a lamp.
7. Explain open and short circuits.
8. Explain electrical safety rules.
9. Identify electrical industry tools.

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

1. Worksheets
2. Quizzes/Tests
3. Participation and Presentations

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.

Personal and Professional Accountability. Students will take responsibility as active learners for achieving their educational and personal goals.

I. SPECIAL INFORMATION (if any): None