Bemidji State University

TADD 3689: TAD LAB: Lab Electronics

A. COURSE DESCRIPTION

Credits: 2
Lecture Hours/Week: 0
Lab Hours/Week: 0
OJT Hours/Week: *.*
Prerequisites: None
Corequisites: None
MnTC Goals: None

This course is an introduction to the basic principles of electricity, magnetism, and DC electronics. Students will be introduced to electrical schematics, electrical circuits, various electrical components, and electrical measuring equipment. This is primarily a lab-based course where students learn by building circuits and taking components apart.

B. COURSE EFFECTIVE DATES: 08/01/2024 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Fundamentals of electricity
2. Electrical components: resistor, capacitor, inductor, relay, transistor, diode, LED, transformer, switch, and potentiometer
3. Electrical schematics and symbols
4. Voltmeter
5. Electrical troubleshooting

D. LEARNING OUTCOMES (General)

1. define, analyze, and apply the concepts of electric charge, resistance, current, voltage, and magnetism.
2. construct simple circuits, handle various electrical components, and sketch and explain basic electrical schematics.
3. explain and discuss the operation of various electrical components including resistors, capacitors, potentiometers, fuses, light emitting diodes, diodes, relays, switches, transistors, and transformers.
4. build basic electrical devices by applying correct soldering and troubleshooting techniques.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted