**BARTON COMMUNITY COLLEGE**

**COURSE SYLLABUS**

# **GENERAL COURSE INFORMATION**

Course Number: AUTO 1112

Course Title: Electrical I

Credit Hours: 3

Prerequisite: None

Division/Discipline: Workforce Training and Economic Development/Automotive Technology

Course Description: In this course students will explore basic electrical theory; interpret electrical measurements, and perform basic electrical wire and terminal repair.

# **INSTRUCTOR INFORMATION**

# **COLLEGE POLICIES**

Students and faculty of Barton Community College constitute a special community engaged in the process of education. The College assumes that its students and faculty will demonstrate a code of personal honor that is based upon courtesy, integrity, common sense, and respect for others both within and outside the classroom.

Plagiarism on any academic endeavors at Barton Community College will not be tolerated. The student is responsible for learning the rules of, and avoiding instances of, intentional or unintentional plagiarism. Information about academic integrity is located in the Student Handbook.

The college reserves the right to suspend a student for conduct that is determined to be detrimental to the College educational endeavors as outlined in the College Catalog, Student Handbook, and College Policy & Procedure Manual. (Most up-to-date documents are available on the College webpage.)

Any student seeking an accommodation under the provisions of the Americans with Disability Act (ADA) is to notify Student Support Services via email at [disabilityservices@bartonccc.edu](mailto:disabilityservices@bartonccc.edu).

# **COURSE AS VIEWED IN THE TOTAL CURRICULUM**

Electrical I is the first in a series of courses pertaining to automotive electrical and electronic systems. Electrical I is a prerequisite to Electrical II, and is one of three Kansas aligned courses.

# **ASSESSMENT OF STUDENT LEARNING**

Barton Community College is committed to the assessment of student learning and to quality education. Assessment activities provide a means to develop an understanding of how students learn, what they know, and what they can do with their knowledge. Results from these various activities guide Barton, as a learning college, in finding ways to improve student learning.

## Course Outcomes, Competencies, and Supplemental Competencies:

1. Distinguish fundamental principles governing electrical current flow.

Linked NATEF Standards: 6.A.2, 6.A.5, 6.A.7

1. Conclude and report the relationship between voltage, ohms and amperage.
2. Differentiate between series, parallel and series/parallel circuits.
3. Utilize electrical test equipment.

Linked NATEF Standards: 6.A.7, 6.A.8, 6.A.10, 6.A.13, 6.A.14

1. Perform basic electrical circuit measurements using a DVOM.
2. Measure DC and AC voltage utilizing a digital lab-scope.
3. Interpret voltage, amperage and resistance measurements.

Linked NATEF Standards: 6.A.2, 6.A.8, 6.A.10, 6.A.13, 6.A.14

1. Test electrical wires, connections, switches, fuses and relays.
2. Identify electrical system faults.
3. Repair electrical wiring and connections.

Linked Standards: 6.A.1, 6.A.3, 6.A.4, 6.A.15, 6.A.17

1. Complete service work orders
2. Perform basic electrical circuit repairs.
3. Interpret electrical diagram symbols.

Linked Standards: NATEF 6.A.2, 6.A.3, 6.A.6

1. Identify basic wiring diagram symbols, components and legend information.
2. Formulate a plan for analysis of electrical components and circuits.

1. **INSTRUCTOR'S EXPECTATIONS OF STUDENTS IN CLASS**

# **TEXTBOOKS AND OTHER REQUIRED MATERIALS**

# **REFERENCES**

# **METHODS OF INSTRUCTION AND EVALUATION**

# **ATTENDANCE REQUIREMENTS**

# **COURSE OUTLINE**