**BARTON COMMUNITY COLLEGE**

**COURSE SYLLABUS**

# **GENERAL COURSE INFORMATION**

Course Number: AUTO 1114

Course Title: Electrical II

Credit Hours: 3

Prerequisite: AUTO 1112 Electrical I

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

Course Description: In this course students will explore theory and perform analysis/repair of the battery, starting, charging, lighting, and accessory systems of the automobile.

# **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 II is the second in a series of three courses, pertaining to the service of the automotive electrical system.

# **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. Repair electrical problems resulting from battery circuit failures.

Linked NATEF Standards: 6.B.1, 6.B.2, 6.B.3, 6.B.4, 6.B.5, 6.B.6, 6.B.7

1. Analyze battery state-of-charge test, determine necessary action.
2. Identify battery malfunctions; perform necessary repair.
3. Inspect, clean, fill, and replace battery, cables, clamps, and hold-downs.
4. Repair electrical problems resulting from generator circuit failures.

Linked NATEF Standards: 6.D.1, 6.D.2, 6.D.3, 6.D.4, 6.D.5

1. Evaluate charging system performance; determine necessary action.
2. Identify charging system malfunctions; perform necessary repair.
3. Remove and replace generator.
4. Repair electrical problems resulting from starter circuit failures.

Linked NATEF Standards: 6.C.1, 6.C.2, 6.C.3, 6.C.4, 6.C.5, 6.C.6

1. Perform starter current draw tests; determine necessary action.
2. Perform starter voltage drop tests; determine necessary action.
3. Remove and replace starter.
4. Inspect and evaluate starter relays and solenoids; determine necessary action.
5. Repair electrical accessory failures.

Linked Standards: 6.G.1, 6.G.2, 6.G.3, 6.E.1, 6.E.2, 6.E.3, 6.F.1, 6.F.1, 6.F.3, 6.H.1, 6.H.2, 6.H.3, 6.H.8

1. Diagnose the cause of dim or no light operation; perform the necessary repair.
2. Inspect and evaluate fusible links, circuit breakers, and fuses; determine necessary action.
3. Inspect and evaluate switches, connectors, relays, and wires of electrical circuits.
4. Perform electrical system analysis utilizing wiring diagrams.

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

# **TEXTBOOKS AND OTHER REQUIRED MATERIALS**

# **REFERENCES**

# **METHODS OF INSTRUCTION AND EVALUATION**

# **ATTENDANCE REQUIREMENTS**

# **COURSE OUTLINE**