**BARTON COMMUNITY COLLEGE**

**COURSE SYLLABUS**

**Fall 2013**

# **GENERAL COURSE INFORMATION**

Course Number: OSHA 1010

Course Title: Electrical Standards

Credit Hours: 2

Prerequisite: None

Division/Discipline: Technical Education Division

Course Description: This course is designed to provide the student with a survey of Occupational Safety and Health Administration’s (OSHA) electrical standards and the hazards associated with electrical installations and equipment. Topics include single and three-phase systems, cord and plug connected and fixed equipment, grounding, ground fault circuit interrupters, and safety-related work practices. Emphasis is placed on electrical hazard recognition and OSHA policies and procedures. Students will also receive instruction on the safe and correct use of electrical testing equipment.

# **CLASSROOM POLICY**

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.

The College reserves the right to suspend a student for conduct that is detrimental to the College's educational endeavors as outlined in the College catalog.

Plagiarism on any academic endeavors at Barton County Community College will not be tolerated. Learn the rules of, and avoid instances of, intentional or unintentional plagiarism.

Anyone seeking an accommodation under provisions of the Americans with Disabilities Act should notify Student Support Services. Additional information about academic integrity can be found at the following link:

<http://academicintegrity.bartonccc.edu/>

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

This course utilizes the OSHA standards and the National Electrical Code (NEC) to provide an overview of electrical installations and equipment with an emphasis on controlling electrical hazards. Students gain knowledge of single and three phase systems, energized parts, cord and plug connected equipment, fixed equipment, grounding, ground fault circuit interrupters, personal protective equipment, hazardous energy control, and safe work practices. Special emphasis is placed on electrical hazard recognition and OSHA inspection procedures.

The transferability of all college courses will vary among institutions, and perhaps even among departments, colleges, or programs within an institution. Institutional requirements may also change without prior notification. It is the student's responsibility to obtain relevant information from intended transfer institutions to insure that the courses the student enrolls in are the most appropriate set of courses for the transfer program.

# **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 and Core Competencies

1. Explain the fundamental concepts of electricity.
   1. Identify basic electrical wiring fundamentals.
   2. Describe grounding requirements and how to accomplish while staying in compliance with OSHA and NEC standards.
   3. Explain how ground fault circuit interrupters protect personnel.
   4. Construct temporary wiring and clarify its use.
   5. Explain why portable generators can be potentially dangerous.
   6. Compare and contrast single and three-phase electrical systems.
2. Detect electrical hazards with the aid of test equipment.
   1. Determine hazardous locations by conducting voltage and ampere assessment.
   2. Determine which OSHA standards apply and achieve the appropriate abatement.
   3. Employ methods to control hazardous energy (Lockout/ Tagout).
   4. Determine the need for over-current protection.
3. Determine the potential severity of electrical current on the human body with respect to the amount of current flow, current path, and duration of exposure.
   1. Explain the need for dielectric personal protective equipment.
   2. Employ personal protective standards to achieve proper stand-off distances.
4. Identify applicable portions of the NEC and explain how it ties into OSHA’s electrical standards.
   1. Explain OSHA’s construction electrical standards guidelines.
   2. Determine electrical requirements for portable equipment.
   3. Determine electrical requirements for fixed equipment.

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

# **TEXTBOOKS AND OTHER REQUIRED MATERIALS**

# **REFERENCES**

# **METHODS OF INSTRUCTION AND EVALUATION**

# **ATTENDANCE REQUIREMENTS**

1. **COURSE OUTLINE**