# 7/28/2020

# brcc keystone logo

Baton Rouge Community College

*Academic Affairs Master Syllabus*

Date Approved: 2 August 2020

Term and Year of Implementation: Fall 2020

**Course Title:** Electrical Fundamentals

**BRCC Course Rubric:** HACR 1113

**Previous Course Rubric**: HACR 1210

**Lecture Hours per week-Lab Hours per week-Credit Hours**: 1-6-3

**Per semester: Lecture Hours-Lab Hours-Instructional Contact Hours**: 15-90-105

**Louisiana Common Course Number:**

**CIP Code:** 47.0201

**Course Description:** Introduces fundamental electrical concepts and theories as applied to the air conditioning industry. Topics include alternating current (AC) and direct current (DC) theory, Ohm’s law, electric meters and diagrams, distribution systems, electrical panels, voltage circuits, code requirements, and safety.

**Prerequisites:**  None

**Co-requisites:** HACR 1123, HACR 1133, HACR 1143, and HACR 1213

**Suggested Enrollment Cap:** 20

**Learning Outcomes.** *Upon successful completion of this course, the students will be able to:*

1. Explain electrical terms, definitions, equipment, and concepts.

2. Demonstrate the ability to convert electrical measurements using Ohm’s law.

3. Demonstrate the ability to wire series and parallel circuits.

4. Demonstrate adherence to code requirements, safety precautions, and safe work practices.

**Assessment Measures.** Assessment of all learning outcomes will be measured using the following methods:

1. Assessment measures may include, but are not limited to, presentations, collaborative projects, in-class activities, field reports, homework, quizzes, and exams.

**Information to be included on the Instructor’s Course Syllabi:**

* ***Disability Statement*:** Baton Rouge Community College seeks to meet the needs of its students in many ways. See the Office of Disability Services to receive suggestions for disability statements that should be included in each syllabus.
* ***Grading:*** The College grading policy should be included in the course syllabus. Any special practices should also go here. This should include the instructor’s and/or the department’s policy for make-up work. For example in a speech course, “Speeches not given on due date will receive no grade higher than a sixty” or “Make-up work will not be accepted after the last day of class”.
* ***Attendance Policy*:** Include the overall attendance policy of the college. Instructors may want to add additional information in individual syllabi to meet the needs of their courses.
* ***General Policies*:** Instructors’ policy on the use of things such as beepers and cell phones and/or hand held programmable calculators should be covered in this section.
* ***Cheating and Plagiarism*:** This must be included in all syllabi and should include the penalties for incidents in a given class. Students should have a clear idea of what constitutes cheating in a given course.
* ***Safety Concerns:*** In some courses, this may be a major issue. For example, “No student will be allowed in the lab without safety glasses”. General statements such as, “Items that may be harmful to one’s self or others should not be brought to class”.
* ***Library/ Learning Resources:*** Since the development of the total person is part of our mission, assignments in the library and/or the Learning Resources Center should be included to assist students in enhancing skills and in using resources. Students should be encouraged to use the library for reading enjoyment as part of lifelong learning.

**Expanded Course Outline:**

1. Electrical terms and definitions

2. Ohms law

3. Electrical circuits

4. Converting electrical measurements to basic units

5. Electrical measuring instruments

6. National Electrical Code (NEC)

7. Voltage and power supplies

8. Wiring series and parallel circuits

9. Operation of electrical measuring instruments: voltmeter, ohmmeter, ammeter, wattmeter