



## COURSE SYLLABUS

PO Box 1189  
1042 W. Hamlet Avenue  
Hamlet, NC 28345  
(910) 410-1700  
www.richmondcc.edu

**COURSE: ELC 131 CIRCUIT ANALYSIS I**

**HOURS:** Lecture: 3 Lab/Shop: 3 Work Exp/Clinical: 0 Credits: 4

### COURSE DESCRIPTION:

This course introduces DC and AC electricity with an emphasis on circuit analysis, measurements, and operation of test equipment. Topics include DC and AC principles, circuit analysis laws and theorems, components, test equipment operation, circuit simulation, and other related topics. Upon completion, students should be able to interpret circuit schematics; design, construct, verify, and analyze DC/AC circuits; and properly use test equipment.

**PREREQUISITE(S):** DMA 010-050 or MAT 070 or MAT 003 Tier 2 or BSP 4003 Tier 2

**COREQUISITE(S):** None

### TEXTBOOK(S) & OTHER SPECIAL REQUIREMENTS:

Open Educational Resources (OER) are listed in the course Moodle

### STUDENT LEARNING OUTCOMES:

Upon successful completion of this course, the student will be able to:

1. Identify and describe the characteristics and operation of components used in DC/AC circuits.
2. Apply math formulas and circuit theorems in the analyses of DC/AC Circuits.
3. Construct, analyze, and troubleshoot series, parallel, and combination circuits.
4. Describe inductance, capacitance, inductive reactance, and capacitive reactance.
5. Display proficiency in using MultiSim (simulation software) to build and test operation of a circuit.
6. Locate and select DC/AC devices using component specifications based on circuit requirements.
7. Select and demonstrate the use of appropriate test equipment to analyze circuit operation.
8. Identify and demonstrate safe workplace practices.

**\*\*\*Please refer to the online version of the Richmond Community College Program & Course Catalog and the Student Handbook for current academic and general information.**