NORTHEASTERN TECHNICAL COLLEGE
COURSE OUTLINE

COURSE: EEM
PREFIX NO. 115
EFFECTIVE DATE FALL 2015
NEXT REVIEW DATE FALL 2016

TITLE: DC Circuits
CREDITS 4
CONTACTS CLASS - LAB - TOTAL

4 3 3 4

PREREQUISITES/CO-REQUISITE:

DESCRIPTION: This course is a study of atomic theory related to electronics and circuit theory. It covers electrical parameters and units, OHM’s law, Kirchhoff’s voltage and current laws, power, and energy. It also includes inductance, capacitance, and DC instruments. Circuits are constructed and tested.


MATERIALS (specifying those to be purchased by student): Materials provided are course outline and lab equipment. Students will provide textbook, paper, pencils, and a scientific calculator.

COLLATERAL READING:

CLASS MANAGEMENT ACTIVITIES (Attendance, tardies, testing, etc.):
Academic Dishonesty: Students are expected to do their own work. Please refer to the NETC Student Code and Grievance Procedure for a definition of academic dishonesty and an outline of the disciplinary action that may result therefrom.

Attendance: Students are expected to attend all scheduled classes, however, up to 10 hours of absence are allowed for unavoidable hardships such as illness or car trouble. A student missing more than the 10 hours of class for any reason will be dropped from the course for excessive absences. A grade of "W" will be assigned if a student drops from a class prior to mid-term. After mid-term, a grade of "WF" is assigned unless there are extenuating circumstances and the student is passing the course at the time of withdrawal.

Tardies: A student is considered tardy if he/she arrives for class after the roll has been taken. Three tardies constitute one (1) hour of absence.

Assigned Work: If a student is absent the day an assignment (test and/or homework) is due, he/she is required to complete the work on the first day back in class.

Disabilities Statement: Students with disabilities are encouraged to contact the Dean for Student Services to discuss needs or concerns as they pursue an academic program and participate in campus life. The Dean for Student Services will provide guidance regarding official documentation of disabilities and/or accommodation of needs. (See College Catalog).
Classroom Etiquette: An integral part of an education is developing a sense of integrity and responsibility not only toward ourselves but also toward others. In the classroom, as on the job or in your home, exhibiting appropriate behavior reflects on your maturity. Arriving on time to class, being prepared, and considerate of others as they are talking has a positive effect on others. Please be considerate.

Student ID: It is mandatory that every student wear his or her student ID at all times when on the Cheraw campus.

During the first week of classes, the instructor will issue a reminder to wear the ID. This reminder is a warning.

After the first week of classes, instructors are required to dismiss students without ID from class. The student may get his/her ID (or a new one in Student Services for $3.00) and return to class before the midpoint of the class. If the student cannot get an ID and return to class by the midpoint, the instructor will record the absence.

RESOURCES (A-V, persons, tools/equipment):
- Audiovisuals
- Lab equipment
- Handouts

COURSE TOPICAL OUTLINE (List topics and sub-topics of course) and Calendar or approximate length of time devoted to topic.

<table>
<thead>
<tr>
<th>WEEK</th>
<th>CHAPTER(S)</th>
<th>TOPIC</th>
</tr>
</thead>
</table>
| 1    | One        | Electricity - Page 24  
|      |            | Basic Electrical Units |
| 2    | Two        | Resistors - Page 58  
|      |            | Electrical Quantities |
| 3    | Three      | Ohm's Law - Page 80  
|      |            | Ohm’s Law |
| 4 & 5| Four       | Series Circuits - Page 112  
|      |            | Series Circuits |
| 6 & 7| Five       | Parallel Circuits - Page 146  
|      |            | Parallel Circuits |
| 8    |            | REVIEW FOR MID-TERM |
| 9 & 10| Six        | Series-Parallel Circuits - Page 178  
|      |            | Series-Parallel circuits |
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COURSE TOPICAL OUTLINE (Cont.)

<table>
<thead>
<tr>
<th>WEEK</th>
<th>CHAPTER(S)</th>
<th>TOPIC</th>
</tr>
</thead>
</table>
| 11   | Seven      | Voltage Dividers and Current Dividers – Page 212
|      |            | Voltage and Current Dividers |
| 12   | Eight      | Analog and Digital Meters – Page 236
|      |            | DC Meters |
| 13   | Eleven     | Conductors and Insulators – Page 326 |
|      |            | Switches and Switching Circuits |
|      |            | Potentiometer and Rheostat |
| 14   | Twelve     | Batteries – Page 354 |
|      |            | DC Power Supplies |
|      |            | Power in DC Circuits |

WEEK 15

REVIEW FOR FINAL EXAM

STUDENT LEARNING OUTCOMES: Upon completion of the course the student will have demonstrated the ability to:

1. Study, define, calculate, and measure electrical parameters and units in DC resistive circuits.

2. Use Ohm's Law, Kirchhoff's Voltage and Current Laws to define and calculate series, parallel, and series-parallel circuit parameters and to verify by experimental data.

3. Constructs series, parallel, and series-parallel circuits and properly connect and read voltage, current, and resistance using the appropriate measuring instruments.

INSTRUCTIONAL METHODS TO COMPLETE OUTCOMES: Classroom lectures, demonstrations, videotapes, textbook assignments, written tests, and lab experiments.

EVALUATIVE METHODS TO APPRAISE OUTCOMES: Ten to twelve chapter tests and a final exam will be given. The course grade consists of a unit average 60%, final exam 20%, and lab 20%. A seven point grading scale will be used.

GRADING SCALE:

93 - 100 = A
84 - 92 = B
77 - 83 = C
70 - 76 = D
Below 70 = F