

# COURSE OUTCOME MATRIX

## COURSE SYLLABUS

### PART 2 of 3

Course Number and Title	EG 107 Introduction to Circuits
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Credit Hours	4
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Course Description	This course is an introductory course to electricity. Students will be introduced to both AC and DC motors and concepts including voltage and power, measurement, inductors, capacitors, AC circuits, oscilloscopes, electron theory, meter reading, Ohm's law, series and parallel circuits, and Kirchhoff's voltage law.
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Prerequisite(s) and/or Corequisite(s)	EG 103 and MT 124 or MT 124A or minimum ACT math score of 23 or minimum SAT math score of 560.
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**Required Textbooks/References/Course Materials:**

Delmar's Standard Textbook of Electricity	7th	Herman	Cengage	1337900346
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	General Education Outcomes
1	Utilize written and verbal language to discuss and comprehend information, incorporating a variety of technologies, such as text, data, and images (written language, verbal language, and information technology).
2	Identify and interpret relevant information in order to formulate an opinion or conclusion (critical thinking).
3	Demonstrate and communicate computational methods and mathematical reasoning in a variety of formats (using words, tables, graphs, mathematical equations, etc., as appropriate) (quantitative literacy and fluency).
4	Communicate in appropriate ways with those who are culturally diverse (intercultural competence).

	Program/Department Outcomes
1	Prepare students to become safe and competent electrical technicians
2	Provide opportunities to display critical thinking skills
3	Demonstrate responsible professional conduct and behavior.
4	Effectively communicate.
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	Course Outcomes (CO)	Bloom's Domain for CO (C, A, P), Category, and Level	Program/Department Outcome(s)	Written Language	Verbal Language	Information Technology	Critical Thinking	Quantitative Literacy and Fluency	Intercultural Competence
1	Describe basic electrical safety, atomic structure of conductors, insulators, and semiconductors, ohms law, electrical quantities, static electricity, magnetism, and resistors.	C-Remembering (1)	1,4	1	1	1	1	1	0
2	Compute basic electric calculations of series, parallel, and combination circuits.	C- Applying (3)	2,4	1	1	1	1	2	0
3	Demonstrate and make use of metering instruments such as the multimeter, both analog and digital, the oscilloscope, and the wattmeter.	C-Applying (3)	1,2,3,4	1	1	1	1	2	0
4	Demonstrate the use of wire tables and determine conductor sizing for circuit loads.	C-Applying (3)	2,4	1	1	1	1	1	0
5	Describe the various sources of electricity and their uses.	C-Remembering (1)	4	1	1	1	1	1	0
6	Compute various calculations for AC circuits making use of resistors, inductors, and capacitors.	C-Applying (3)	2	1	1	1	1	2	0
7	Compute various calculations for single phase and three phase circuits loads,	C-Applying (3)	2	1	1	1	1	2	0
8	Compute various calculations for transformer and motor loads.	C-Applying (3)	2	1	1	1	1	2	0
9	Describe the uses and connections of single phase and three phase transformers, motors, and generators.	C-Remembering (1)	1,2,4	1	1	1	2	1	0
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**Bloom's Domain Legend**

C = Cognitive  
A = Affective  
P = Psychomotor

**General Education Outcome Legend**

2 = Included and Measurable  
1 = Introduced and/or Minimally Addressed and Not Measurable  
0 = Not included

Approved: May 2021  
Reviewed: November 11, 2021