

COURSE OUTCOME MATRIX COURSE SYLLABUS PART 2 of 3

Course Number and Title	EG 171 Circuit Analysis I
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Credit Hours	4
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Course Description	To provide the students with an in-depth study of DC and AC advanced circuit and network analysis, troubleshooting techniques, malfunction analysis, magnetic, electromagnetic and electrostatic devices, DC motors, generators, and control circuits.
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Prerequisite(s) and/or Corequisite(s)	EG 107 and EG 103 or MT 123
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Required Textbooks/References/Course Materials:

Grob's Basic Electronics	12th	Grob, Schultz	McGraw-Hill	0073373877
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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	Analyze resistor characteristics, color coding, trouble shooting.	C-Analyzing (4)	2, 4	1	1	1	1	2	0
2	Compute voltage, current, resistance and power with use of Ohm's Law and determine the required resistance and appropriate wattage rating of a resistor.	C-Applying (3)	2	1	1	1	1	2	0
3	Analyze DC series and parallel circuits, and the effects of open and short circuits,	C-Analyzing (4)	2, 4	1	1	1	1	2	0
4	Describe various uses of Kirchoff's voltage law.	C-Remembering (1)	2	1	1	1	1	2	0
5	Compute currents and voltage drops in DC series and parallel circuits.	C-Applying (3)	2	1	1	1	1	2	0
6	Compute and prepare calculations with the method of branch currents, node-voltage analysis, method of mesh currents, the superposition theorem, Thevenin and Norton equivalent circuit, and Kirchoff's voltage law.	C-Applying (3)	2	1	1	1	1	2	0
7	Describe the main function of a conductor, advantages of stranded wire versus solid wire, switches, fuses, temperature coefficient of resistance, dielectrics, corona effect.	C-Remembering (1)	2, 4	1	1	1	1	1	0
8	Describe primary and secondary cells, internal resistance of a cell, voltaic cells, current capacity and voltage output of a battery, the difference between current and voltage sources.	C-Evaluating (5)	2, 4	1	1	1	1	1	0
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10									

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
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