



**Course Syllabus
SEMESTER
School of STEM**

Course Name:	Circuit Analysis I
Course & Section Number:	EET101-XXX
Meeting Day(s) & Time(s):	Lecture: Lab:
Credits:	3
Contact Hours:	5
Text:	None
Instructor's Name:	
Office Hours & Location:	
OCC Phone:	
OCC Email:	

Disclaimer: The instructor reserves the right to amend this syllabus as deemed necessary and will communicate such amendment to the students in the course. Please note that while unlikely, there is a possibility courses might need to change the delivery method due to external issues like public health concerns, weather issues, etc. If this happens, the college will communicate any changes via email and/or other communication methods.

Catalog description:

This course covers DC circuit analysis. Topics include: the principles of direct current, voltage, resistance, power, maximum power transfer, series circuits, parallel circuits, series-parallel circuits, capacitance, and inductance using Ohms law and Kirchhoff's laws. Network theorems such as Thevenin, Norton, mesh, and nodal analysis are covered. This course includes a weekly hands-on lab. The lab experiments are designed to verify and reinforce the concepts presented in the lecture. EET100, equivalent high school courses, military experience, or work experience is recommended.

Course Materials:

All lecture and lab materials can be found at: [https:// DrWedding.com](https://DrWedding.com)

What You Will Learn in the Course

Course Objectives:

Students will be able to document activities. The student must be able to perform basic math concepts as applied to electrical formulae involving voltage, current, resistance, and power. Solve problems by using concepts of series circuits parallel circuits, and combination circuits. Solve problems by using concepts of circuit analysis and network theorems, such as branch analysis, loop analysis, Superposition theorems, Thevenin's theorem, and Norton's theorem. Apply the principles of capacitance and capacitors, to solve DC circuits. Apply the fundamentals of magnetic circuits, inductance, to solve DC circuits. The student will demonstrate basic soldering technique skills.

Student Learning Outcomes:

Students will:

Outcome	Where Assessed
1) Give the Nominal, max, and min value of a resistor based on the color code.	Final exam
2) Solve mathematically, a series-parallel DC circuit.	Final exam
3) Calculate the values and graph V and I for the charge state, steady state, and discharge state for an inductor.	Final exam
4) Calculate the values and graph V and I for the charge state, steady state, and discharge state for a capacitor	Final Exam
5) Generate loop equations (mesh) for a series-parallel circuit.	Final exam

Program Outcomes:

The following program outcomes are assessed in this course

Outcome	Where Assessed
Analyze DC Circuits	Labs 3-7, 9-10,12-14 All Quizzes and the Final
Construct DC Circuits	Labs 1-14
Produce professional Project documentation	Labs 1-14

Institutional General Education Competencies:

As a student at Owens Community College, you will take General Education courses as part of your degree program. While specific to the General Education courses, will be reinforced in many of your degree program major courses and may be measured in your capstone course(s) and others as identified.

Competency	Where Assessed
Think analytically, critically, and creatively.	All tests and the final.
Demonstrate quantitative and scientific reasoning	The questions at the end of all 14 labs, all of the tests, and the final exam.
Communicate Effectively	The lab questions and the lab summaries on all 14 labs.

Technology, Lab, and File Requirements:

- Schematics must be drawn using the computer program of your choice. Schematics drawn by hand will not be graded. Some free programs and websites that will let you generate schematics include:
 - EasyEDA.com
 - TinkerCad.com

Academic Support

Disability Services Resource Center: If you have a disability or acquire one, you may be entitled to receive reasonable accommodations intended to assure you an equal opportunity to participate in and benefit from the program. To receive more information or to register for accommodations, please contact the Disability Resource Center at 567-661-7007, email disability@owens.edu, visit <https://www.owens.edu/disability/>, or stop by College Hall 124.

Tutoring Services: Owens Community College offers academic tutoring and assistance in a variety of subjects including: accounting, computing, economics, mathematics, science, and writing. For more information go to: <https://www.owens.edu/successcenters/>.

Counseling Services: Counseling Services provides assistance to students experiencing personal, educational, interpersonal/relationship, family, social, or psychological difficulties. If you feel you may benefit from this service, please contact them at counselingservices@owens.edu. More information is at <https://www.owens.edu/counseling/>.

Campus and Community Connections: The Center for Campus and Community Connections (College Hall 151) is a walk-in office created to provide retention support through resource stability initiatives and community connections. Go here for more information: <https://www.owens.edu/connection/> or contact connections@owens.edu

Owens Library: The Owens Library offers two locations (Toledo and Findlay) as well as online

resources. For more information visit <https://www.owens.edu/library/>.

Other Resources: Students can find more information on campus resources, student support, student life, and security at this [link](#).

General Information

Student Code of Conduct: All students are expected to follow Owens Community College's Student Code of Conduct, which includes academic honesty, encompassing plagiarism. See the Board Policy for more information.

Anti-Discrimination and Harassment & Title IX/Sexual Misconduct: All students, faculty, and staff are expected to follow Owens Community College's Anti-Discrimination and Harassment Policy and the College's Title IX Policy/Sexual Misconduct Procedures and Guidelines. The College strictly prohibits and will not tolerate harassment, discrimination, intimidation, or hostile/offensive working or learning environments.

Religious Accommodations: A student seeking an accommodation for an absence permitted under Ohio's Testing Your Faith Act must provide the instructor with a written email notice with the specific dates for an absence, and must do so not later than fourteen (14) days after the first day of instruction. Alternative accommodations are not retroactive, and no academic penalty will be imposed for an absence under the policy*. The request for an alternative accommodation will be kept confidential. Students with questions about a religious accommodation under Ohio's Testing your Faith Act may contact the College's Office of Academic Affairs: provost@owens.edu. The policy may be found on the Owens website: [3358:11-2-63 Accommodation](#) for a Student Absence for the Observance of Religious Beliefs and Practices Policy

Document Collection: Throughout the semester, your instructors may ask for a variety of assignments including tests and/or quizzes for student learning of institutional general education competencies or program assessment. Please save all your class materials until the end of the semester.

Classroom Admittance: OCC classes shall only be attended by the officially registered OCC students or perspective students, instructor of record, guest lecturer, or substitute. Visitors are not permitted to be in the classroom and should not be invited to attend or participate in the class. See [FERPA](#) regulations for more information.

Use of AI Tools: This course permits you to use artificial intelligence (AI) tools, such as chatbots, text generators, paraphrasers, summarizers, or solvers, to get guidance on assignments, as long as you do so in an ethical and responsible manner. Essentially, you can think of these tools as ways to help you learn but not to entirely create work for assignments like discussion board posts, essays, presentation slides, and so on. AI is more like your tutor or TA, not a replacement for your independent thinking.

This means that you must:

- Not use AI tools to replace your own thinking or analysis or to avoid engaging with the course content.

- Cite or explain any AI tools you use. Provide the name of the AI tool, the date of access, the URL of the interface, and the specific prompt or query you used to generate the output.
- Be transparent and honest about how you used the AI tool and how it contributed to your assignment. Explain what you learned from the AI tool, how you verified its accuracy and reliability, how you integrated its output with your own work, and how you acknowledged its limitations and biases.

You are accountable for any mistakes or errors made by the AI tool. Always check and edit the output before submitting your work. If you discover any inaccuracies or inconsistencies in the output after submission, notify the instructor immediately and correct them as soon as possible. Using AI tools in an unethical or irresponsible manner, such as copying or paraphrasing the output without citation or transparency, using the output as your own work without verification or integration, or using the output to misrepresent your knowledge or skills, is considered a form of academic dishonesty and will result in a zero grade for the assignment and possible disciplinary action. If you have any questions about what constitutes ethical and responsible use of AI tools, please consult with the instructor **before** submitting your work.

NOTE: Some instructors will also list specific acceptable and unacceptable uses or include a statement like “All written assignments, projects, and exams must be completed independently.”

Student Responsibilities & Instructor Expectations

Instructor Expectations:

Attendance is not required – but highly suggested.

The bulk of your knowledge will come from the lectures and the hands-on labs. Attendance is not included in your final grade. However, missing class may reduce your knowledge and cause your lab and quiz grades to drop.

Classroom Environment:

- 1) No eating, drinking, vaping, chewing, or smoking in the lecture room or laboratory.
- 2) It is the student's responsibility to obtain missed notes, handouts, and assignments.
- 3) All rules in the student handbook will be enforced.

How Grades are Determined and Major Assignments

Lecture: The lecture notes are just an outline of the topics being discussed. It is the student's responsibility to take notes from the lecture and copy examples from the board.

Labs: Labs should be turned in one week after the lab has been performed. Labs must be done neatly. Schematics must be done by a computer program of your choice (EasyEDA.com, TinkerCad.com, Cad drawing, etc). All questions and summaries must be typed and in complete sentences. Calculations do not need to be typed. The questions and summary will be stapled to the back of the lab. Handwritten questions and summaries will not be graded.

Tests: Take home quizzes/tests are open book and open notes. This does not mean you can turn in someone else's work. Turn in someone else's work is cheating and will result in disciplinary action.

Evaluation Measure	Student Learning Outcomes Assessed	Value
14 Labs @ 2.5% each	1-5	35% ¹
4 Quizzes at 10% each	1-5	40% ²
Final Exam	1-5	25% ²

Per the department rules:

1 Your lab grade average must be greater than 60 % to pass the class.

2 Your lecture grade average (the quizzes and the final) must be greater than 60 % to pass the class.

Grading Procedure:

Grades will be calculated on the following scale.

90% and Above	A
80% to Less than 90%	B
70% to Less than 80%	C
60% to Less than 70%	D
Less Than 60%	F

Tentative Class Assignments:

	<u>Date</u>	<u>Topic (Lecture / Lab)</u>	<u>SLO</u>
1	DATE	Numbers, color codes, and equipment	1
	DATE	Simple Series Circuits	1
2	DATE	TBD	
	DATE	Lab 1 Lab 2	1
3	DATE	Series Circuits, KVL, Opens and shorts	1
	DATE	Lab 3	1
4	DATE	Quiz 1 Review and Diodes	1
	DATE	QUIZ #1 and Lab4	1
5	DATE	Parallel Circuits and KCL	1
	DATE	Lab 5	1
6	DATE	Combinational Circuits and equivalent resistance	1-2
	DATE	Lab 6	1-2
7	DATE	Combinational Circuits and voltage/current dividers	1-2
	DATE	Lab 7	1-2
8	DATE	Quiz 2 Review and Soldering Irons	1-2
	DATE	Quiz #2 and Lab 8	1-2
9	DATE	Mesh, Nodal, and Super position	1-2,5
	DATE	Lab 9	1-2,5
10	DATE	Thevenin, Norton, Source Conversion, and Max Power	1-2
	DATE	Lab 10	1-2
11	DATE	Quiz 3 review / Oscilloscope	1-2
	DATE	QUIZ #3 and Lab 11	1-2
12	DATE	D.C. Inductors (Charge / Steady State / Discharge)	1-3
	DATE	Lab 12	1-3
13	DATE	D.C. Capacitors (Charge / Steady State / Discharge)	1-2,4
	DATE	Lab 13	1-2,4
14	DATE	Quiz 4 review and Magnetic reed switches	1-2
	DATE	TBD	
15	DATE	QUIZ #4 and Lab 14	1-5
	DATE	Final Review	1-5
Fin	DATE	Final	1-5