



Circuit Analysis II

ELT 126.I60

Winter 2021

Number of Credits: 4

Days Class Meets: Tuesday, Thursday

Meeting Times: 5 – 6 pm

Location/Venue: JetNet (Big Blue Button/Zoom)

Instructor: Eddie Burkhead (Electrical Theory), Kim Simpson (Math Theory)

Contact Phone:

Contact Email: BurkheaEdwardL@jccmi.edu, SimpsonKimberlS@jccmi.edu

Online Office Hours: Thursday, 10 am to 8 pm (Eddie), By appointment (Kim)

Course Description

A study of alternating electrical current is presented. Topics include AC measurements, resistance, inductance and capacitance in AC circuits.

Prerequisite(s)

ELT 120

Course Goals

To understand how AC power differs from DC power, and the function of capacitors and inductors in electrical devices. Trigonometry, algebra, geometry, and other mathematical concepts are discussed to reinforce the electrical theory.

Course Objectives

- o Measure AC current using an oscilloscope and other test equipment
- o Describe the difference between resistance, reactance, and impedance
- o Calculate Real and Reactive Power in a circuit

- o Describe how single and polyphase circuits work
- o Describe the effect a capacitor, inductor, and transformer will have on a circuit
- o Describe the basics of magnetism, and how it is used in generators and motors

Textbook

- **This course uses OER!** *Optional* resources are available in electronic format as a direct download from the publisher and/or the JetNet shell.

Follett Access

- Please [review the cost of your required materials](#) to determine the best option for you to purchase your materials.
- For more information on the Follett ACCESS Program, you can view the [view the frequently asked questions](#).

If after reviewing the costs, you choose to opt out, you may do so here: www.jccmi.edu/optout. Please note your opt out selection is for your entire semester schedule. You cannot opt out and opt in to individual courses. And you must opt out by the due date for your first class.

Class Starts On:	Opt Out Date:
January 11, 2021	January 14, 2021
February 15, 2021	February 18, 2021
March 15, 2021	March 18, 2021
March 30, 2021	April 2, 2021

If you have questions about materials, please contact the Jackson College Follett bookstore at jackson@bkstr.com. For account billing questions, please contact the Jackson College Cashier at jccashier@jccmi.edu.

Extras

Students will need to create an Amatrol account if they do not have one. Please follow instructions in JetNet.

Grading Procedure

100 points – Electrical Quizzes 65 points – Math Quizzes 35 points – Amatrol Total: 200 points

Grading Scale

GPA	GRADE RANGE
4.0	94-100%
3.5	89-93%
3.0	84-88%
2.5	78-83%
2.0	72-77%
1.5	66-71%
1.0	60-65%
0.5	55-59%
0.0	0-54%

Failure

Any grade below 2.0 is failing.

Academic Honesty Policy

Academic Honesty is defined as ethical behavior that includes student production of their own work and not representing others' work as their own, by cheating or by helping others to do so.

Plagiarism

Plagiarism is defined as the failure to give credit for the use of material from outside sources. Plagiarism includes but is not limited to:

- Submitting other's work as your own
- Using data, illustrations, pictures, quotations, or paraphrases from other sources without adequate documentation
- Reusing significant, identical or nearly identical portions of one's own prior work without acknowledging that one is doing so or without citing this original work (self-plagiarism)

Cheating

Cheating is defined as obtaining answers/material from an outside source without authorization. Cheating includes, but is not limited to:

- Plagiarizing in any form
- Using notes/books/electronic material without authorization
- Copying

- Submitting others' work as your own or submitting your work for others
- Altering graded work
- Falsifying data
- Exhibiting other behaviors generally considered unethical
- Allowing your work to be submitted by others

Accessibility

Jackson College understands that cultivating a broadly diverse community is crucial to our educational mission and to our foundational commitment to leadership and service. Jackson College is fully committed to ensuring our courses are accessible to everyone including those with disabilities. We are currently working to increase accessibility and usability of our course materials in order to meet or exceed the requirements of Section 508 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1991 and Web Content Accessibility Guidelines (WCAG) 2.0. For more information about Jackson College's efforts to ensure accessibility please visit the [Jackson College accessibility web page](#).

If you have an accessibility need in any of our classes please e-mail the Center for Student Success at JCCSS@jccmi.edu or visit the [Center for Student Success web page](#).

At the Center for Student Success (CSS), we are committed to providing all students the opportunity to achieve academic success by providing a variety of support services free of charge to Jackson College students. This includes, but is not limited to, peer and faculty tutoring, mental health referral, temporary assistance with transportation, various workshops/seminars, and the TRIO program.

In addition, the CSS staff is committed to adapting the College's general services to meet the individual needs of otherwise qualified students with disabilities, for the purpose of providing equal access to all programs and facilities.

Course Management

Students who do not actively participate the first week of the class will be withdrawn. Students who are unable to finish the course due to extenuating circumstances may be granted a grade of Incomplete provided they have finished over 2/3 of the required coursework and are on track to pass.

Makeup Policy

Makeup work may be granted if students continue to struggle with assigned quiz problems. These are addressed on a case by case basis. Please contact your instructors early and often if you think this may benefit you.

Help

Please reach out to your instructors to set up office hour appointments for help in this course. There are no tutors for this course, but the Center for Student Success employs math tutors who may be helpful.

Academic Advising

It is important to contact a Center for Student Success professional prior to the start of the semester in order to receive accommodations in a timely manner. While we will make every effort to coordinate accommodations in a timely manner, failure to self-identify prior to the start of the semester may delay notification to instructors and timeliness of acquiring accommodations. Accommodations do not automatically carry over to the next semester. Please e-mail JCCSS@jccmi.edu or visit the [Accommodations for Students with Disabilities](#) web page

Student Responsibilities

Students are expected to complete all work in JetNet and Amatrol by the last day of the course.

Attendance- Participation Policy

For online sections

Just as in a traditional classroom course, regular class participation and keeping up on the reading and assignments is strongly correlated with survival in college. It is my recommendation that you plan to do your assignments and take your exams BEFORE the last day they are due. If problems occur, there is time to fix them before the deadline.

In compliance with Federal Title IV funding requirements, as well as college initiatives, I will be monitoring student participation on a regular basis and officially reporting student activity throughout the term to assure compliance with college policy and federal regulations. It is imperative that you log in to the course and actively participate within the first couple of days of the term to validate your enrollment in the course. After that, not actively participating in class may result in you being withdrawn from the course. Being withdrawn from a course can have an impact on financial aid, billing, athletic eligibility, and housing status. As a college student you are responsible for how your participation impacts your academic progress; the accountability lies with you.

Caveat

Revisions to this syllabus may be necessary in the event of emergencies, school closing, illness, or other unlikely events. Should this happen, the instructors will reach out as soon as possible to communicate any changes.

Calendar

Dates may change as needed

WEEK	DATE	TOPIC	HOMEWORK
1	3/15	MAGNETISM	QUIZ AND AMATROL UNITS
2	3/22	ALTERNATING CURRENT	QUIZ AND AMATROL
3	3/29	CAPACITORS	QUIZ AND AMATROL
4	4/5	INDUCTORS	QUIZ AND AMATROL
5	4/12	RLC CIRCUITS	QUIZ AND AMATROL
6	4/19	TRANSFORMERS AND MOTORS	QUIZ AND AMATROL
7	4/26	POLYPHASE CIRCUITS	QUIZ AND AMATROL

Important Dates:

DATE	EVENT