

 <b>FLORIDA ATLANTIC UNIVERSITY</b>	<b>COURSE CHANGE REQUEST</b> <b>Undergraduate Programs</b>		UUPC Approval <u>4/21/2025</u> UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner Posted _____ Catalog _____
	Department _____ College _____		
<b>Current Course Prefix and Number</b>		<b>Current Course Title</b>	
<i>Syllabus must be attached for ANY changes to current course details. See <a href="#">Template</a>. Please consult and list departments that may be affected by the changes; attach documentation.</i>			
<b>Change title to:</b>  <b>Change prefix</b> From: _____ To: _____ <b>Change course number</b> From: _____ To: _____ <b>Change credits*</b> From: _____ To: _____ <b>Change grading</b> From: _____ To: _____ <b>Change WAC/Gordon Rule status**</b> Add _____ Remove _____ <b>Change General Education Requirements***</b> Add _____ Remove _____ <small>*See <a href="#">Definition of a Credit Hour</a>.</small> <small>**WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to this form. See <a href="#">WAC Guidelines</a>.</small> <small>***GE criteria must be indicated in syllabus and approval attached to this form. See <a href="#">Intellectual Foundations Guidelines</a>.</small>		<b>Change description to:</b>       <b>Change prerequisites/minimum grades to:</b>  & (MAP 3305 or MAP 2302) & MAC 2313 (Min. grade of C or better)  <b>Change corequisites to:</b>    <b>Change registration controls to:</b>  Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade (default is D-).	
<b>Effective Term/Year for Changes:</b>		<b>Terminate course? Effective Term/Year for Termination:</b>	
<b>Faculty Contact/Email/Phone</b>			
<b>Approved by</b> Department Chair <u>Hai Kava</u> College Curriculum Chair <u>Galan Liu</u> College Dean <u>[Signature]</u> UUPC Chair <u>Korey Sorge</u> Undergraduate Studies Dean <u>Dan Meeroff</u> UFS President _____ Provost _____		<b>Date</b> <u>3/12/2025</u> <u>4/10/25</u> <u>4/21/25</u> <u>4/21/2025</u> _____ _____	

Email this form and syllabus to [mjenning@fau.edu](mailto:mjenning@fau.edu) seven business days before the UUPC meeting.



FLORIDA ATLANTIC UNIVERSITY

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**EEL 3111-001 10349**

**Circuits 1**

**Date:** Wednesday, Friday 8:00 AM - 9:20 AM

**Building:** General Classroom South Boca **Room:** 116

**3 Credit(s)**

**Fall 2025 - 1 Full Term**

## Instructor Information

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Jonathan Bagby

**Email:** bagby@fau.edu

Dolores De Groff

**Email:** degroff@fau.edu

**Office:** EE 440

**Office Hours:**

W: 10 AM – 1:30 PM

Th: 9:30 AM – 11:30 AM

F: 10 AM – 11:30 AM

[degroff@fau.edu](mailto:degroff@fau.edu)

## Course Description

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Circuits 1

Prerequisites: PHY 2049 or PHY 2044 with grade of "C" or better

Prerequisites or Corequisites: (MAP 3305 or MAP 2302) and MAC 2313

Introductory to electric circuit analysis: passive and active sign conventions; Ohm's and Kirchhoff's

laws; network analysis, theorems as applied to d-c and a-c circuits; basic co-amp circuits; single time constant transient analysis; phasor representations and sinusoidal steady state; real and reactive single phase power.

## Prerequisites/Corequisites

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**Prerequisite(s):** All of the following:

- PHY 2049 or PHY 2044 Graduate / Undergraduate (Minimum Grade of C) **AND**
- MAC 2313 Graduate / Undergraduate (Minimum Grade of C) **May be taken concurrently AND**
- MAP 3305 or MAP 2302 Graduate / Undergraduate (Minimum Grade of C) **May be taken concurrently**

## Instructional Method

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### In-Person

Traditional concept of in person. Mandatory attendance is at the discretion of the instructor.

## Required Texts/Materials

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Instructor's Notes placed on canvas

### Basic Engineering Circuit Analysis

**ISBN:** 9781118539293

**Publisher:** John Wiley & Sons, Incorporated

**Edition:** 11th

## Course Objectives/Student Learning Outcomes

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The student will understand the concepts of voltage, current, power, and energy. The student will be able to understand and apply Ohm's law and Kirchhoff's voltage and current laws. The student will be able to analyze linear circuits with resistors, capacitors, inductors, and linear dependent sources. The student will learn the concept of DC and AC analysis of linear circuits.

## Faculty Rights and Responsibilities

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Florida Atlantic University respects the rights of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions that do not impede their exercise. To ensure these rights, faculty members have the prerogative to:

- Establish and implement academic standards.
- Establish and enforce reasonable behavior standards in each class.
- Recommend disciplinary action for students whose behavior may be judged as disruptive under the Student Code of Conduct [University Regulation 4.007](#).

## Disability Policy

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In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at [www.fau.edu/sas/](http://www.fau.edu/sas/).

## Course Evaluation Method

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### Homework 10%

Homework will be submitted via multiple choice type questions on canvas.

### Four 20-minute Quizzes: 20%

Quiz #1 Friday, Aug. 30

Quiz #2 Friday, Sept. 27

Quiz #3 Friday, Oct. 25

Quiz #4 Friday, Nov. 22

The lowest quiz grade will be dropped, and the remaining three will be averaged.

### Three Tests: 40%

Test #1 Friday, Sept. 13

Test #2 Friday, Oct. 11

Test #3 Friday, Nov. 8

**Final Exam: 30%**

Friday, Dec. 6 7:45 am – 10:15 am

## **Code of Academic Integrity**

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Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see [University Regulation 4.001](#).

## **Attendance Policy Statement**

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Students are expected to attend all their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations, or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances, and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

## **Religious Accommodation Policy Statement**

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In accordance with the rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices and beliefs

regarding admissions, registration, class attendance, and the scheduling of examinations and work assignments. University Regulation 2.007, Religious Observances, sets forth this policy for FAU and may be accessed on the FAU website at [www.fau.edu/regulations](http://www.fau.edu/regulations).

Any student who feels aggrieved regarding religious accommodations may present a grievance to the executive director of The Office of Civil Rights and Title IX. Any such grievances will follow Florida Atlantic University's established grievance procedure regarding alleged discrimination.

## Time Commitment Per Credit Hour

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For traditionally delivered courses, not less than one (1) hour of classroom or direct faculty instruction each week for fifteen (15) weeks per Fall or Spring semester, and a minimum of two (2) hours of out-of-class student work for each credit hour. Equivalent time and effort are required for Summer Semesters, which usually have a shortened timeframe. Fully Online courses, hybrid, shortened, intensive format courses, and other non-traditional modes of delivery will demonstrate equivalent time and effort.

## Course Grading Scale

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Letter Grade	Letter Grade
A	90 - 100%
A-	88 - 89%
B+	86 - 87%
B	80 - 85%
B-	78 - 79%
C+	76 - 77%
C	70 - 75%
C-	68 - 69%
D+	66 - 67%
D	60 - 65%
D-	58 - 59%
F	Below 58

## Grade Appeal Process

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You may request a review of the final course grade when you believe that one of the following conditions apply:

- There was a computational or recording error in the grading.

- The grading process used non-academic criteria.
- There was a gross violation of the instructor's own grading system.

[University Regulation 4.002](#) of the University Regulations contains information on the grade appeals process

## **Policy on Make-up Tests, Late work, and Incompletes**

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Makeup quizzes and tests are given only if there is solid evidence of a medical or otherwise serious emergency that prevented the student of participating in the session. A note from a doctor, proof of jury duty, etc. is required to request makeup. Makeup quizzes or exams should be administered and proctored by department personnel unless there are other pre-approved arrangements.

Late work is not acceptable.

Incomplete grades are against the policy of the department. Unless there is solid evidence of medical or otherwise serious emergency, incomplete grades will not be given.

## **Policy on the Recording of Lectures**

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Students enrolled in this course may record video or audio of class lectures for their own personal educational use. A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach students about a particular subject.

Recording class activities other than class lectures, including but not limited to student presentations (whether individually or as part of a group), class discussion (except when incidental to and incorporated within a class lecture), labs, clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, and private conversations between students in the class or between a student and the lecturer, is prohibited.

Recordings may not be used as a substitute for class participation or class attendance and may not be published or shared without the written consent of the faculty member. Failure to adhere to these requirements may constitute a violation of the University's Student Code of Conduct and/or the Code of Academic Integrity.

## **Counseling and Psychological Services (CAPS) Center**

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Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual therapy, group therapy, and crisis services, to name a few - offered to

help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

## Student Support Services and Online Resources

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- [Center for Learning and Student Success \(CLASS\)](#)
- [Counseling and Psychological Services \(CAPS\)](#)
- [FAU Libraries](#)
- [Math Learning Center](#)
- [Office of Information Technology Helpdesk](#)
- [Center for Global Engagement](#)
- [Office of Undergraduate Research and Inquiry \(OURI\)](#)
- [Science Learning Center](#)
- [Speaking Center](#)
- [Student Accessibility Services](#)
- [Student Athlete Success Center \(SASC\)](#)
- [Testing and Certification](#)
- [Test Preparation](#)
- [University Academic Advising Services](#)
- [University Center for Excellence in Writing \(UCEW\)](#)
- [Writing Across the Curriculum \(WAC\)](#)

## Artificial Intelligence Preamble

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FAU recognizes the value of generative AI in facilitating learning. However, output generated by artificial intelligence (AI), such as written words, computations, code, artwork, images, music, etc., for example, is drawn from previously published materials and is not your own original work.

FAU students are not permitted to use AI for any course work unless explicitly allowed to do so by the instructor of the class for a specific assignment. [\[Policy 12.16 Artificial Intelligence\]](#)

Class policies related to AI use are decided by the individual faculty. Some faculty may permit the use of AI in some assignments but not others, and some faculty may prohibit the use of AI in their course entirely. In the case that an instructor permits the use of AI for some assignments, the assignment instructions will indicate when and how the use of AI is permitted in that specific assignment. It is the student's responsibility to comply with the instructor's expectations for each assignment in each course. When AI is authorized, the student is also responsible and accountable for the content of the



work. AI may generate inaccurate, false, or exaggerated information. Users should approach any generated content with skepticism and review any information generated by AI before using generated content as-is.

If you are unclear about whether or not the use of AI is permitted, ask your instructor before starting the assignment.

Failure to comply with the requirements related to the use of AI may constitute a violation of the [Florida Atlantic Code of Academic Integrity, Regulation 4.001.](#)

Proper Citation: If the use of AI is permitted for a specific assignment, then use of the AI tool must be properly documented and cited. For more information on how to properly cite the use of AI tools, visit <https://fau.edu/ai/citation>

## **Course Topical Outline**

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### **Chapter 1 Basic Concepts**

System of Units (SI)

Basic Quantities

Circuit Elements

### **Chapter 2 Resistive Circuits**

Ohm's Law

Kirchhoff's Laws

Voltage and Current Division

Dependent Sources

### **Chapter 3 Nodal and Loop Analysis**

Circuits with independent sources

Independent current sources

Independent voltage sources

Circuits with dependent sources

Dependent current sources

Dependent voltage sources

Super nodes

Solution of matrix equations, MATLAB codes

## **Chapter 5 Additional Analysis Techniques**

Superposition

Thevenin and Norton's Theorems

Maximum Power Transfer

## **Chapter 6 Capacitance and Inductance**

Current-voltage relationships

Stored and dissipated energy and power

## **Chapter 7 Transient Analysis**

First order circuits: RL and RC

Second order circuits: RLC

## **Chapter 8 AC Steady State Analysis**

Sinusoids-phasors

Impedance and admittance

Time domain analysis

KVL and KCL using phasors

## **Chapter 9 Power Analysis**

Average Power

Power Factor

Complex Power

Power Factor Correction

## Title IX Statement

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In any case involving allegations of sexual misconduct, you are encouraged to report the matter to the University Title IX Coordinator in the Office of Civil Rights and Title IX (OCR9). If University faculty become aware of an allegation of sexual misconduct, they are expected to report it to OCR9. If a report is made, someone from OCR9 and/or Campus Victim Services will contact you to make you aware of available resources including support services, supportive measures, and the University's grievance procedures. More information, including contact information for OCR9, is available at <https://www.fau.edu/ocr9/title-ix/>. You may also contact Victim Services at [victimservices@fau.edu](mailto:victimservices@fau.edu) or 561-297-0500 (ask to speak to an Advocate) or schedule an appointment with a counselor at Counseling and Psychological Services (CAPS) by calling 561-297-CAPS.