

# **EEL3112 - Circuits 2**

## **Circuits II**

EEL 3112

***Class Periods:*** T | Period 8 - 9 (3:00 PM - 4:55 PM) and R | Period 9 (4:05 PM - 4:55 PM)

***Location:*** FLG 0270

***Academic Term:*** Fall 2021

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### ***Instructor:***

Name: Navid Asadi

Email Address: [nasadi@ufl.edu](mailto:nasadi@ufl.edu)

Office Phone Number: 35-294-1075

Office Hours: (Wednesdays 8:30am – 9:30am) or by appointment – On Canvas

### ***Teaching Assistant/Peer Mentor/Supervised Teaching Student:***

Please contact through the Canvas website

- Zachary Soviero, <[zsoviero@ufl.edu](mailto:zsoviero@ufl.edu)>

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### ***Course Description***

Continuation of EEL 3111 with emphasis on circuit-enabled applications, convolution, Fourier and Laplace transforms, Credits: 3.

### ***Course Pre-Requisites / Co-Requisites***

EEL 3111 - Circuits 1: EEL 3135-Introduction to Signals & Systems, EEL 3105: Analytical Methods in Electrical Engineering

### ***Course Objectives***

The topics covered are part of the underlying foundational theory of electrical/electronic systems along with developing design and implementation skills.

### ***Materials and Supply Fees***

NA

### ***Professional Component (ABET):***

Develop design and analysis skills and capabilities as they apply to basic electrical engineering circuit theory, practice, and applications.

### ***Relation to Program Outcomes (ABET):***

The table below is an example. Please consult with your department's ABET coordinator when filling this out.

<b>Outcome</b>	<b>Coverage*</b>
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	Medium
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	High
3. An ability to communicate effectively with a range of audiences	
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which	

must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

\*Coverage is given as high, medium, or low. An empty box indicates that this outcome is not covered or assessed in the course.

### ***Required Textbooks and Software***

- Title: Electric Circuits
- Author: Nilsson/Riedel
- Publication date and edition: 10<sup>th</sup>, Prentice Hall, 2015
- ISBN number: 978-0-133-76003-3

### ***Recommended Materials***

- NA

### ***Course Schedule***

Week 1: Introduction and background

Week 2: First order passive and active circuits/sequential switching (HW)

Week 3: Second order RLC circuits/characterization equations

Week 4:	Laplace transform introduction (HW)
Week 5:	Inverse Laplace/poles and zeros
Week 6:	Laplace transform application/Midterm 1: September 28 <sup>th</sup>
Week 7:	Transfer function/convolution
Week 8:	Steady State sinusoidal response/Impulse function (HW)
Week 9:	Frequency selective filters/ Bode plot
Week 10:	Low/high/band pass filters (HW)
Week 11:	Band stop filters, Midterm 2: November 2 <sup>nd</sup>
Week 12:	Active filters
Week 13:	Fourier series introduction (HW)
Week 14:	Fourier series application (HW)
Week 15:	Fourier Transform

### ***Online Course Recording***

Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

### ***Attendance Policy, Class Expectations, and Make-Up Policy***

Students are expected to attend class lectures and arrive on time. Please turn off cell-phones, pagers, and other electronic devices.

Excused absences must be consistent with university policies in the undergraduate catalog (<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx> (Links to an external site.)) and require appropriate documentation.

### ***Evaluation of Grades***

<b>Assignment</b>	<b>Total Points</b>	<b>Percentage of Final Grade</b>
Homework Sets (6)	100 each	25%
Midterm Exam (2)	100	50%
Final Exam	100	25%
Total	100	100%

### ***Grading Policy***

The following is given as an example only.

<b>Percent</b>	<b>Grade</b>	<b>Grade Points</b>
93.4 - 100	A	4.00
90.0 - 93.3	A-	3.67
86.7 - 89.9	B+	3.33
83.4 - 86.6	B	3.00
80.0 - 83.3	B-	2.67
76.7 - 79.9	C+	2.33
73.4 - 76.6	C	2.00
70.0 - 73.3	C-	1.67
66.7 - 69.9	D+	1.33
63.4 - 66.6	D	1.00
60.0 - 63.3	D-	0.67
0 - 59.9	E	0.00

More information on UF grading policy may be found at:  
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx> (Links to an external site.)

### ***Students Requiring Accommodations***

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/> (Links to an external site.). It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

### ***Course Evaluation***

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/> (Links to an external site.). Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/> (Links to an external site.). Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/> (Links to an external site.).

### ***In-Class Recording***

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

### ***University Honesty Policy***

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/> (Links to an external site.)) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

### ***Commitment to a Safe and Inclusive Learning Environment***

The Herbert Wertheim College of Engineering values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:

- Your academic advisor or Graduate Program Coordinator
- Jennifer Nappo, Director of Human Resources, 352-392-0904, [jpennacc@ufl.edu](mailto:jpennacc@ufl.edu)
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, [taylor@eng.ufl.edu](mailto:taylor@eng.ufl.edu)
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, [nishida@eng.ufl.edu](mailto:nishida@eng.ufl.edu)

## ***Software Use***

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

## ***Student Privacy***

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <https://registrar.ufl.edu/ferpa.html> (Links to an external site.)

## ***Campus Resources:***

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## ***Health and Wellness***

### **Covid-19 Protocols:**

- You are expected to wear approved face coverings at all times during class and within buildings even if you are vaccinated. Please continue to follow healthy habits, including best practices like frequent hand washing. Following these practices is our responsibility as Gators.
- If you are sick, stay home and self-quarantine. Please visit the UF Health Screen, Test & Protect website about next steps, retake the questionnaire and schedule your test for no sooner than 24 hours after your symptoms began. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 (or email [covid@shcc.ufl.edu](mailto:covid@shcc.ufl.edu)) to be evaluated for testing and to receive further instructions about returning to campus. UF Health Screen, Test & Protect offers guidance when you are sick, have been exposed to someone who has tested positive or have tested positive yourself. Visit the [UF Health Screen, Test & Protect website \(Links to an external site.\)](#) for more information.

## **U Matter, We Care:**

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

**Counseling and Wellness Center:** <http://www.counseling.ufl.edu/cwc> (Links to an external site.), and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

## **Sexual Discrimination, Harassment, Assault, or Violence**

If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the [Office of Title IX Compliance \(Links to an external site.\)](#), located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, [title-ix@ufl.edu](mailto:title-ix@ufl.edu)

## **Sexual Assault Recovery Services (SARS)**

Student Health Care Center, 392-1161.

**University Police Department** at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/> (Links to an external site.).

## *Academic Resources*

**E-learning technical support**, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml> (Links to an external site.).

**Career Resource Center**, Reitz Union, 392-1601. Career assistance and counseling.  
<https://www.crc.ufl.edu/> (Links to an external site.).

**Library Support**, <http://cms.uflib.ufl.edu/ask> (Links to an external site.). Various ways to receive assistance with respect to using the libraries or finding resources.

**Teaching Center**, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.  
<https://teachingcenter.ufl.edu/> (Links to an external site.).

**Writing Studio, 302 Tigert Hall**, 846-1138. Help brainstorming, formatting, and writing papers.  
<https://writing.ufl.edu/writing-studio/> (Links to an external site.).

**Student Complaints Campus:** <https://care.dso.ufl.edu> (Links to an external site.).

**On-Line Students Complaints:** <http://www.distance.ufl.edu/student-complaint-process> (Links to an external site.).

## Course Summary:

**Date Details Due**

**Course Status**

August 2021

Calendar						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
25 July 2021 25	26 July 2021 26	27 July 2021 27	28 July 2021	29 July 2021	30 July 2021	31 July 2021
Previous month	Previous month	Previous month	28 Previous month	29 Previous month	30 Previous month	31 Previous month

Calendar

<b>Sunday</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>
1 August 2021 1	2 August 2021 2	3 August 2021 3	4 August 2021 4	5 August 2021 5	6 August 2021 6	7 August 2021 7
8 August 2021 8	9 August 2021 9	10 August 2021 10	11 August 2021 11	12 August 2021 12	13 August 2021 13	14 August 2021 14
15 August 2021 15	16 August 2021 16	17 August 2021 17 Today	18 August 2021 18	19 August 2021 19	20 August 2021 20	21 August 2021 21
22 August 2021 22	23 August 2021 23	24 August 2021 24	25 August 2021 25	26 August 2021 26	27 August 2021 27	28 August 2021 28
29 August 2021 29	30 August 2021 30	31 August 2021 31	1 September 2021 1 Next month	2 September 2021 2 Next month	3 September 2021 3 Next month	4 September 2021 4 Next month

**Course assignments are not weighted.**