

## Introduction to Electrical Engineering

EEL 3000 Section 21274

**Class Periods:** Mondays, periods 8-9, 3:00 pm – 4:55 pm

**Location:** 80-99% Online

**Academic Term:** Spring 2024

**Instructor:** Prof. Kent Fuchs (Prof. Henry Zmuda for January only)

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Office (Prof. Fuchs): 4129 Malachowsky Hall

Prof. Zmuda phone contact:

Office Phone Number: (352) 392 – 0990

Mobile Phone Number (text me anytime, voice calls for emergencies only please):

(850) 225 – 9200

Office Hours: TBA, or via Zoom by appointment

**Teaching Assistant:** Please contact through the Canvas website

Conrad Hellwege

Email: [conrad.hellwege@ufl.edu](mailto:conrad.hellwege@ufl.edu)

Office location: IEEE Office

Office hours: TBA, or via Zoom by appointment

### Course Description

(2 credits) Introduces electrical and computer engineering tools, both hardware and software. Professional ethics, career development. Assemble and test hardware project to provide hands-on experience.

**Course Pre-Requisites / Co-Requisites:** None

**Course Objectives:** Learn about the Electrical and Computer Engineering profession, particularly the differences in sub-fields. Explore career opportunities and how to prepare for them, and become aware of the tools and resources used in industry. Demonstrate the ability to communicate effectively and knowledge of professional issues such as ethics, contemporary issues, and continuing education.

**Materials and Supply Fees:** TBD

**Professional Component (ABET):**

State the contribution of the course to meeting the professional components of the ABET-accredited degree.

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

Outcome	Coverage*
1. An ability to identify, formulate, and solve engineering problems by applying principles of engineering, science, and mathematics.	
2. An ability to apply both analysis and synthesis in the engineering design process, resulting in designs that meet desired needs.	
3. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.	

4. An ability to communicate effectively with a range of audiences	High
5. 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.	High
6. An ability to recognize the ongoing need for additional knowledge and locate, evaluate, integrate, and apply this knowledge appropriately.	High
7. An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty	Medium

\*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:** None

Access to MATLAB (available free through ECE Department VPN)

**Recommended Materials**

Access to MATLAB and Python is required (available free through ECE Department VPN)

**Course Schedule (Not necessarily in this order)**

- Week 1: Overview of Course, Learning Styles
- Week 2: Representatives from ECE and College of Engineering Student Services
- Week 3: Introduction to MATLAB Programming
- Week 4: Introduction to Python Programming
- Week 5: Engineering Career Development
- Week 6: Engineering Professionalism
- Week 7: Engineering Ethics
- Week 8: Engineering Innovation and Entrepreneurship
- Week 9: Intellectual Property and Patent Law
- Week 10: Computer Engineering Area Overview
- Week 11: Signals and Systems Area overview
- Week 12: Electronics Area Overview
- Week 13: Devices Area Overview
- Week 14: Electrophysics Area Overview
- Week 15: Final Quiz

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

**Attendance is required.** To maintain a sense of normalcy in these unusual times attendance is required. One of the stated purposes of this course is to instill a sense of professionalism, preparing you for your future career. Even though many in industry are working from home, employers expect active employee participation during online meeting, and the same is expected here. Since the course is 100% online via Zoom the class will be recorded, **but no credit is given for watching the class online.**

Students are NOT permitted to use ChatGPT or equivalent AI software for submitted assignments. Do so will constitute plagiarism and be referred to the Dean of Students Office as a violation of the UF honor code.

Attendance will be taken (electronically) during the first and possible the last 5 minutes of class. You must respond to both to receive full credit. Contact us if you are experiencing technical difficulties. Please arrive on time and be attentive

for the entire class.

Students may not leave early from class unless approved in advance. An excused absence requires valid (UF approved) documentation.

Attendance is not taken the first day of class (add/drop week).

One (1) unexcused absence is allowed for the semester. Any abuse of the attendance system is regarded as “cheating” and will be considered an offence of the UF Honor Code and reported to the Dean of Students Office.

**All students must post a recognizable photograph of their face on the Canvas page.**

### **Make-up Work**

Makeup work is contingent on appropriate justifications and appropriate documentation (UF Dean of Students issued excuse, physician’s letter, military active duty, jury duty, etc.)

Since many of the classes consist of guest speakers, make-up classes are generally not possible though the class recording may be viewed on the Canvas Zoom page.

If an assignment is missed (including the final quiz) for legitimate reasons (UF Dean of Students issued excuse, physician’s letter, military active duty, jury duty, etc.) the make-up will consist of a project, possibly of greater difficulty than the original assignment.

A missed assignment other than attendance may be made up by submitting an optional assignment on Altium PC design software. This optional assignment can also be used to improve upon a grade issued except for attendance. Details will be provided when necessary.

### **Policy on Late Submissions**

Assignment submissions are due by 11:59 pm of the assigned due date.

Late assignments will receive a 50% deduction in grade for first day late (submitted within 24 hours of the due date)

A 75% deduction in grade for second day late (submitted within 48 hours of due date).

**No assignments will be accepted (no credit given) after 48 hours.**

**If there is a question concerning the grade for an assignment, a student has one week (7 days) to contact the instructor or TA to resolve the issue. After one week, the grade stands, even if an error was made in grading.**

Assignments are submitted electronically by uploading them onto Canvas. Late projects are treated the same as late written assignments. Excused late submissions MUST be approved by the instructor in advance.

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

**Professionalism:** It is expected that each student will conduct himself or herself in a professional manner. At the discretion of the instructor, any student who engages in conduct that violates professionalism will first receive a warning. Upon a second infraction you will have up to a 10% reduction (two letter grades) from their final grade.

Unprofessional behavior will NOT be tolerated.

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

Assignment	Total Points	Percentage of Final Grade
Attendance (with photo)	1 each	25%
Essays (4)	10 each	20%
Electronic Kits/Projects	10 each	15%
MATLAB/Python Assignments (3)	10 each	20%
Final Exam	100	20%
Total:		100%

### **Grading Policy**

Numeric Cutoff	Letter Grade	Grade Points
≥ 93	A	4.00
≥ 90	A-	3.67
≥ 87	B+	3.33
≥ 83	B	3.00
≥ 80	B-	2.67
≥ 77	C+	2.33
≥ 73	C	2.00
≥ 70	C-	1.67
≥ 67	D+	1.33
≥ 63	D	1.00
≥ 60	D-	0.67
< 60	E	0.0

More information on UF grading policy may be found at:  
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

### **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/>. 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/>. 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/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

### **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/process/student-conduct-code/>) 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>

### ***Campus Resources:***

## Health and Wellness

### **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:** <https://counseling.ufl.edu>, 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**, 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/>.

## Academic Resources

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

**Career Connections Center**, Reitz Union, 392-1601. Career assistance and counseling; <https://career.ufl.edu>.

**Library Support**, <http://cms.uflib.ufl.edu/ask>. 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/>.

**Writing Studio**, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.  
<https://writing.ufl.edu/writing-studio/>.

**Student Complaints Campus:** <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>; <https://care.dso.ufl.edu>.

**On-Line Students Complaints:** <https://distance.ufl.edu/state-authorization-status/#student-complaint>.