Elements of Electrical Engineering
EEL 3003 Sections 12369, 12370, 12371, 12372, 12373, 12374
Class Periods: Online, T 3-4, R 3-4, R 6-7, F 3-4 *Location:* Online, MAEB 229
Academic Term: Fall 2019

Instructor:
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Office Hours: TBA

Teaching Assistant/Peer Mentor/Supervised Teaching Student (online sections only): TBA

Course Description
Introduces the theory and practice of electrical engineering for those not majoring in electrical engineering. Discusses circuits, machines, electronics and systems.

Course Pre-Requisites / Co-Requisites
MAC 2313 and PHY 2049

Course Objectives
1) Become familiar with common engineering circuit components.
2) Understand role of circuits across engineering majors for future multidisciplinary courses or projects.
3) Learn techniques to solve open-ended engineering challenges.
4) Understand core equations and numerical problem-solving techniques of introductory circuits.
5) Connect circuit theory and equations to practice and builds with physical circuits components.

Materials and Supply Fees
$15 for students in the Traditional Sections only.

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.	High
2. An ability to apply both analysis and synthesis in the engineering design process, resulting in designs that meet desired needs.	Medium
3. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.	Low
4. An ability to communicate effectively with a range of audiences	Low
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.	

6.	An ability to recognize the ongoing need for additional knowledge and locate, evaluate, integrate, and apply this knowledge appropriately.	
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

1) **Arduino Starter Kit - English Official Kit With 170 Page Book:** Each student should purchase their own Arduino Starter Kit. Half of your course homework assignments and some conceptual questions on the exam will be based on built items using the Arduino Kit. The kit is not sold in the UF Bookstore; you need to obtain online from either Arduino.cc or Amazon.com.
2) **Laptop:** All students will need your own laptop to use your Arduino Kit. Online section students will use the laptop to take course exams, which are proctored online using Proctor-U.

Course Schedule

Week	
1	Physics2 Review: Building Terminology, Tellegen's Theorem, Current Division & Resistance, Resistors, KCL - KVL
2	Physics2 Review: Series & Voltage Division, Parallel & Current Division, Multiple Sources or Resistors in Parallel
3	Nodal, Mesh, Loop Analysis
4	Review Exam1
5	Exam1, DC Motors
6	Source transformation, Superposition, Thevenin/Norton Equivalent Circuits
7	Homecoming
8	Operational Amplifiers
9	Review Exam2
10	Exam2, Capacitors & Inductors
11	Intro to AC
12	Frequency Response, Filters
13	Review Exam3
14	Exam3
15	Project Due

Attendance Policy, Class Expectations, and Make-Up Policy

Attendance in weekly in-class meetings is required unless there is a university approved reason for absence. **Each student is permitted to miss one weekly session during the semester without grade penalty,** each additional unexcused absence will result in a half-letter-grade penalty for each absence.

Evaluation of Grades

Assignment	Total Points	Percentage of Final Grade
Homework (6)	100 each	15%
Arduino Reports (6)	100 each	15%
Exams (3)	100 each	60%
Arduino Project	100	10%
Total		100%

Grading Policy

Percent	Grade	Grade Points
92 – 100	A	4.00
90 – 91.9	A-	3.67
88 – 89.9	B+	3.33
82 – 87.9	B	3.00
80 – 81.9	B-	2.67
78 – 79.9	C+	2.33
72 – 77.9	C	2.00
70 – 71.9	C-	1.67
68 – 69.9	D+	1.33
62 – 67.9	D	1.00
60 – 61.9	D-	0.67
<60	E	0.00

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 requesting accommodations should first register with the Disability Resource Center (352-392-8565, https://www.dso.ufl.edu/drc) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Course Evaluation
Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at https://evaluations.ufl.edu/evals. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results/.

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/) 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

• Robin Bielling, Director of Human Resources, 352-392-0903, rbielling@eng.ufl.edu
• Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, taylor@eng.ufl.edu
• Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, 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 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, 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

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. https://lss.at.ufl.edu/help.shtml.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. https://www.crc.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://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf.

On-Line Students Complaints: http://www.distance.ufl.edu/student-complaint-process.