

UNIVERSITY OF HOUSTON
Department of Electrical and Computer Engineering
ECE 2201 – Circuit Analysis I
Summer Semester 2020

Course: ECE 2201 Section Numbers (also called the Class Numbers) 15567/15569, 2:00 – 4:00pm, MTuWThF, online course

Instructor: Dr. Dave Shattuck, Email: shattuck@uh.edu
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Mobile Phone: 713-498-6888
Office Hours: MTuTh 11:00am – 1:00pm, or by appointment by sending an email to the address above. In that email, please suggest a time and date that would be good for you, and I will see what I can do. For these office hours, I expect to respond to emails, phone calls, and text messages. Individual or group Zoom meetings can be set up based on issues that arise from those messages.

Required Text

We will be using the custom-built interactive Top Hat Textbook Circuit Analysis, ISBN 978-1-77412-150-4, along with the Top Hat One Semester, ISBN 978-0-9866151-0-8, for this course.

You can visit the Top Hat Overview (<https://success.tophat.com/s/article/Student-Top-Hat-Overview-and-Getting-Started-Guide>) within the Top Hat Success Center which outlines how you will register for a Top Hat account, as well as providing a brief overview to get you up and running on the system.

An email invitation will be sent to you, but if you do not receive this email, you can register by simply visiting the course website that corresponds with your section of the course: <https://app.tophat.com/students/310148>.

Note: our Top Hat Course Join Code is 310148.

Your textbook will be applied at checkout for \$65. With tax, this will be approximately \$68.69. Do not worry if you don't see any content in the course right away. Your instructor will make it available to you as we progress through the semester. Should you require assistance with Top Hat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team directly by way of email (support@tophat.com), the in app support button, or by calling 1-888-663-5491.

Recommended Materials for Supplementary Self-Study

Sets of past exams and quizzes, as well as self-study materials, are available on the web, as described in this document. In addition, you need to get the required textbook. Other good circuit analysis textbooks include ones from the following authors: Nilsson and Reidel; Irwin; Alexander & Sadiku; and Hayt, Kemmerly & Durbin.

Prerequisites and CFORl requisites

The following requirements must be met before enrolling in Circuit Analysis. In each course you must have earned a grade of "C-" or better, except the English courses for which a "D-" or better is required. Waivers of any of these prerequisites are possible only through a Request for Waiver of Prerequisite/Corequisite of an ECE Course form, available on the web at:

http://www.ece.uh.edu/sites/www.ece/files/forms/waiver_of_prerequisite.pdf

Prerequisites

ENGI 1100 or equivalent

ENGI 1331 or equivalent

Credit For or Registration in (CFORl) Requisites

MATH 3321 – Engineering Mathematics

PHYS 1322 – University Physics II

MATH 2433 – Calculus III

PHYS 1122 – Physics Laboratory II

Web Materials and Email Issues

We will be using the Blackboard **Learn** web site available on the web through AccessUH for posting of grades and email sent to the class, and to post certain documents. Many other documents and handouts, including an extensive set of old exams and quizzes with solutions, will be available on the course website at <http://courses.egr.uh.edu/ECE/ECE2201/>. Please explore both the Blackboard site and the course website for materials of interest. We will assume that your UH e-mail alias (StudentName@uh.edu) is pointed to a working e-mail server that you check regularly.

We will be using Zoom, or other web platforms, to conduct classes online. A Zoom meeting invitation will be sent to you by email for each class meeting. You will be able to click on the link in that email to join the class meeting.

Exams and quizzes will be conducted online. The exam and quiz problems will be sent to you either by email or through Blackboard. You will need to be able to print these problems out for solving, or load them onto an appropriate tablet type device for solving. In either case, you are responsible for having appropriate equipment for working the problems and then returning them to the instructor by the time and date specified. These exams and quizzes are to be completed without communicating with anyone except the instructor. A shockingly large number of students in the spring semester of 2020 used other student's solutions, or solutions prepared by other third parties. When discovered, severe penalties can result, which can include penalties up to and including expulsion from the University of Houston.

For this course, if I have reasonable grounds to believe that a student has committed an act of academic dishonesty, I will ask for an academic honesty hearing, and request appropriate penalties.

See the Academic Honesty policy on the web at

<http://publications.uh.edu/content.php?catoid=34&navoid=12627>.

GENERAL INFORMATION

Catalog Description

Circuit Analysis I. Cr. 2 (1-3). Prerequisites: ENGI 1331 and credit for or concurrent enrollment in MATH 2433, MATH 3321, PHYS 1122 and PHYS 1322. Electric circuit analysis techniques. Analysis of resistive circuits, including node voltage and mesh current methods, and Thevenin and Norton equivalent circuits.

Course Topics

- Voltage, Current, Power
- Kirchhoff's Laws and Ohm's Law
- Circuit Analysis Concepts
- Systematic Equation Writing
- Thévenin's and Norton's Theorems

Expected Course Outcomes:

Students who successfully complete this course are expected to meet the following course outcomes.

- Students will add to their knowledge-base in the fundamentals of electrical engineering, especially in the area of circuit analysis, in part by gaining a greater understanding of key engineering concepts, such as equivalent circuits and transform techniques. Students will use this knowledge and understanding to solve circuits problems such as arise in electrical engineering. (ABET student outcome e)
- Students will further develop their basic skills of problem solving and critical thinking by learning techniques such as the systematic writing and solution of simultaneous equations. They will apply this knowledge of mathematics, science and engineering to efficiently solve circuit analysis problems. (ABET student outcome a)
- Students will continue to develop their ability to choose between various approaches and to learn to take systematic approaches to difficult problems, and therefore identify, formulate, and solve engineering problems efficiently. (ABET student outcome e)
- Students will demonstrate an appropriate level of attention to detail and the use of clear, appropriate notation, which will facilitate their ability to communicate effectively with technical colleagues. (ABET student outcome g)

Circuit Analysis is designed to introduce you to fundamental concepts in circuit analysis and, more generally, in electrical engineering. Since you will be using these ideas in all aspects of your career as an electrical engineer, both in the classroom and in the workplace, it is important that you learn the conceptual framework presented in ***Circuit Analysis*** as thoroughly as possible.

There is no laboratory formally associated with this class. However, there is a corresponding laboratory course, *Circuit Analysis Laboratory*, ECE 2100, which is typically taken along with ECE 2202 *Circuit Analysis II*. This is a separate course that involves construction and measurement of circuits in the Electronics laboratory. The second section number for ECE 2201 course, which is 15569 this semester and labeled “laboratory”, is a requirement reflecting that more time is set aside for working problems during lecture in this course than in a typical 2 credit-hour course.

Academic Honesty Policy

Students in this course are expected to follow the *Academic Honesty Policy* of the University of Houston. It is your responsibility to know and follow this policy. You **must** sign the Academic Honesty Statement on the last page of this handout, detach it, and submit it to your instructor by **Thursday, June 4, 2020**. If you fail to do this, you may be dropped from the course. See the policy on the web at <http://publications.uh.edu/content.php?catoid=34&navoid=12627>.

Religious Holy Days

Students whose religious beliefs prohibit class attendance on designated dates or attendance at scheduled exams may request an excused absence. To do this, you are **strongly encouraged** to request the excused absence, in writing, by the fifth class day. Please submit this written request to your instructor to allow the instructor to make appropriate arrangements. For more information, see the catalog at <http://publications.uh.edu/content.php?catoid=34&navoid=12495>.

Students with Disabilities

Students with recognized disabilities will be provided reasonable accommodations, appropriate to the course, upon documentation of the disability with a **Student Accommodation Form** from the **Center for Students with Disabilities**. To receive these accommodations, you **must** request the specific accommodations, by submitting them to the instructor in writing.

Students who fail to submit a written request will not be considered for accommodations. For more information, see the web at <http://www.uh.edu/csd/>.

Counseling and Psychological Services (CAPS) can help students who are having difficulties managing stress, adjusting to college, or feeling sad and hopeless. You can reach CAPS (www.uh.edu/caps) by calling 713 743-5454 during and after business hours for routine appointments or if you or someone you know is in crisis. Also, there is no appointment necessary for the “Let’s Talk” program, which is a drop-in consultation service at convenient locations and hours around campus. <https://uh.edu/caps/outreach/lets-talk/index.php#hours> .

Homework

There will be regular homework assignments. Homework assignments will not be assigned from the textbook. Since doing homework is important, we will be collecting and grading it. The instructor believes that it is beneficial for students to work together on the homework, in a constructive manner. Some students may be tempted to copy their homework from a fellow student, which obviously defeats the purpose of doing homework. At the end of the semester, the grades you obtained on your homework assignments will count a few percent toward your final average. We will make the final determination of exactly how much they count at the end of the semester. However, it is important for you to understand that you cannot pass the course on the basis of homework assignments. Our experience is that if you are copying the homework, or simply not doing it, you will not do well on the exams and quizzes. Since the exams and quizzes will count far more than the homework assignments, the homework grade cannot raise your average sufficiently for you to pass the course.

Attendance

Attendance at all classes is expected and required. The instructor may take attendance in any class, at any time during the class. The instructor may do this as many times per class period as he chooses, without warning. The attendance grade can be used in calculating the grade for the course.

Exams

There will be one mid-semester examination, given on the date listed below. This examination will last for 90 minutes, with some time to receive and transmit the exam.

Mid-semester Exam: Tuesday, June 16, 2020 at 2pm

A comprehensive final exam will be given on **Wednesday, July 1, 2020 at 2pm**. The final exam will last 150 minutes. If you have a conflict with any exam time, you must notify your instructor in writing during the first week of classes.

In addition, ***quizzes*** will be given during the semester. The quizzes will have exam-like questions and will typically last 20 to 30 minutes. They can be given at any time during the class, at the instructor's discretion.

Conduct of Examinations

Exams and quizzes are closed book, closed notes, unless otherwise announced. A one-page crib sheet, using both sides of an 8.5" by 11" sheet of paper, will be allowed for each of the exams. Note that the number of crib sheets will not increase during the semester. You may bring any calculator to the exams and quizzes. **No makeup examinations will be given. If you have a medical emergency you should call your instructor as soon as possible, preferably before the examination. Medical documentation will be required in all such cases.**

You are not permitted to communicate with anyone except the instructor during exams and quizzes. For this course, a TI-nspire or equivalent device is considered a calculator, and is therefore permitted for use during exams and quizzes.

Grading Policy

Grades will be determined on the basis of exams, quizzes, attendance, and submitted homework grades with the following **approximate** weights. The actual weights will be fixed at the end of the semester.

Homework	3-10%
Quizzes	10-20%
Mid-semester Exam	20-30%
Final Exam:	40-60%

Grade Point Rule

The following **approximate** grade point scale will be used in determining your grade. This scale may be modified somewhat, but is included here so that you will have a general idea of how well you are doing in the course. The final grade scale will be determined at the end of the semester.

90.00 - 100:	A's
78.00 - 89.99:	B's
66.00 - 77.99:	C's
54.00 - 65.99:	D's
below 54:	F

Grade Posting

The course letter grade will be posted at the end of the semester. Normally, the grades are available about one week after the final exam. The instructor is not allowed to give out grades over the phone or by email. During the semester, grades will be posted on Blackboard. Final grades will also be posted on Blackboard at the end of the semester; however, the official grade reporting is done on PeopleSoft, not Blackboard.

Withdrawal Policy

The withdrawal dates listed in the online Academic Calendar <http://publications.uh.edu/content.php?catoid=34&navoid=12780> , will be followed strictly. Please consult this document for appropriate dates. Grades of Incomplete (I) will be given only when a small portion of the course has not been completed for a good reason. If the material has been completed, an “I” grade cannot be given. Detailed information about these issues is available in the *University Catalog*, at <http://publications.uh.edu/content.php?catoid=34&navoid=12501> .

Documents on the Web

Some additional materials not on Blackboard may be found at: www.ece.uh.edu/courses, by clicking on the ‘ECE2201’ link on that webpage. Among the documents that are available on the web sites listed above are old exams and quizzes with solutions, current homework assignments, questions asked by previous students with answers, some lecture notes, and some files such as guided solutions to circuits problems, intended to help students in the role of a computer tutor, in a directory called the **Dr_Dave_Project**. Explore and have fun.

Academic Honesty Statement

I have read the University of Houston Academic Honesty Policy available on the web at

<http://publications.uh.edu/content.php?catoid=34&navoid=12627>

I agree to abide by the provisions of this policy. This includes doing work on quizzes and exams without communicating with anyone except the course instructor.

Name: (Please print) _____

Signature: _____

Date: _____

Please detach this page, and print your name clearly, sign and date it. Then, scan it and submit it to the instructor by email to shattuck@uh.edu, by **Thursday, June 4, 2020**. If you fail to do this, you may be dropped from the course.