UNIVERSITY OF HOUSTON

**Department of Electrical and Computer Engineering**

# ECE 2202 – Circuit Analysis II

**Summer Semester 2020**

***Course*:** ECE 2202 Class Numbers 15503 and 15504, 2:00 – 4:00 pm MTuWThF  
Room N/A (Online)

***Instructor:*** Dr. Len Trombetta, Email: [Ltrom](mailto:Ltrom)betta@uh.edu

Office: W324 Engineering Bldg. 2 (D3); Phone: (713) 743-4424;

Office Hours: by appointment

***Required Text***

We will be using the custom-built interactive Top Hat Textbook Circuit Analysis, ISBN 9781773309682, along with the Top Hat One Semester, ISBN 9978-0-9866151-0-8, for this course.

You can visit the Top Hat Overview ([https://success.tophat.com/s/article/Student-Top-Hat-Overview-and-Getting-Started-Guide](http://t.tophat.com/t/9954/c/ca9f1e20-8590-4a90-b801-3dbee8d3d671/NB2HI4DTHIXS643VMNRWK43TFZ2G64DIMF2C4Y3PNUXXGL3BOJ2GSY3MMUXVG5DVMRSW45BNKRXXALKIMF2C2T3WMVZHM2LFO4WWC3TEFVDWK5DUNFXGOLKTORQXE5DFMQWUO5LJMRSQ====/success-tophat-com-s-article-student-top-hat-overview-and-getting-started-g/true)) within the Top Hat Success Center which outlines how you will register for a Top Hat account, and provides an overview to get you on the system.

Your textbook will be applied at checkout for about $40. Do not worry if you don’t see any content in the course right away. I will make it available to you as we progress through the semester. Should you require assistance with Top Hat at any time, please contact their Support Team directly by way of email ([support@tophat.com](mailto:support@tophat.com)), the in app support button, or by calling 1-888-663-5491.

***Recommended Materials for Supplementary Self-Study***

A variety of self-study materials is available on the course website at <http://courses.egr.uh.edu/ECE/ECE2202/> . Here you will find old exams and quizzes with solutions, current homework assignments, and questions asked by previous students with answers. You will also find some lecture notes, and 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!

Other good circuit analysis textbooks include ones from the following authors: Nilsson and Reidel; Irwin; Alexander & Sadiku; and Hayt, Kemmerly & Durbin.

***MS Teams***

A team called ***ECE 2202-15503-2020-SU*** has been created in MS Teams. You should have access to this resource, and you should join the Team. We will be using Teams to conduct online classes, and class notes and videos will be posted there. Before classes start, you will get an invite to a recurring class.

***Blackboard***

I will be using Blackboard for communicating with the class via email, and for posting quizzes and grades. We will assume that your UH e-mail alias ([StudentName@uh.edu](mailto:StudentName@uh.edu)) is pointed to a working e-mail server that you check regularly.

***Power and Internet Issues***

It happens occasionally that a summer storm causes a temporary power outage. It also happens occasionally that Internet connectivity is not sufficient for conducting a class. If either of those things happens more than 10 minutes before the end of a class, please give me 10 minutes to try to get a new session started. If that is not possible, you will receive an email with further instructions as soon as I am able to send it. If we have missed a significant amount of class time because of these issues, I will most likely assign reading or videos posted on Teams.

### Prerequisites and CFORI 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***

##### ECE 2201 – Circuit Analysis I

#### GENERAL INFORMATION

***Catalog Description***

Circuit Analysis II. Cr. 2 (1-3). Prerequisites: ECE 2201. Analysis of electric circuits, including inductors, capacitors, and first order circuits; sinusoidal analysis.

**Course Topics**

* Thévenin’s and Norton’s Theorems
* Inductors and Capacitors
* First Order Response
* Sinusoidal Steady-State Analysis (Phasors)
* Complex Power

***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 differential 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.

Note that there is a corresponding laboratory course, which is *Circuit Analysis Laboratory*, ECE 2100. This is a separate course that involves construction and measurement of circuits in the Electronics laboratory. However, ECE 2100 will not be offered during summer 2020.

***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 the 3rd class day. 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 3rd 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, by the third class day. 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***

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](http://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. <http://www.uh.edu/caps/outreach/lets_talk.html>

***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 instructors believe 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, if he/she chooses, 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 included in the grade for the course.

***Exams and Quizzes***

We will have regular quizzes in the course, as well as a midterm exam and a final exam. Quizzes will typically last 20 to 30 minutes. Details of the midterm and final exams will be discussed in class.

The lowest quiz grade will be dropped from the average. The quizzes may be based on the homework problems, but will not be identical to them. The dates for these quizzes and exams will be given separately in a course schedule.

***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**. The following items are not permitted during the exams: laptop computers; connections to the internet of any kind; communications devices of any kind. For this course, a TI-nspire or equivalent device is considered a calculator, and is therefore permitted. All work must be done on the examination forms provided for that purpose.

***Grading Policy***

Grades will be determined based on 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 5%

Quizzes 25%

Midterm Exam 35%

Final Exam: 35%

***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 - 100: A's 78 - 89.99: B's 66 - 77.99: C's 54 - 65.99: D's below 54: F

***Grade Posting***

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 in a secure manner, i.e., so that only you will have access to your grades. 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 Academic Calendar, will be followed strictly. 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> .

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.

Name: (Please print) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

#### Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Please detach this page, and submit it to Blackboard by Wednesday, July 8 at midnight. If you fail to do this, you may be dropped from the course.