

EE 411 - Circuit Theory Fall 2019

(Unique Numbers 15980, 15985, 15990, and 15995)

Catalogue Data: EE **411. Circuit Theory**. Capacitance and inductance; first- and second-order transient circuit response, including operational amplifier circuits; sinusoidal steady state analysis; complex power in single-phase and balanced three-phase systems; transformers; Bode plots; two-port networks (Z-parameters); and computer-aided analysis and design.

Prerequisite: Electrical Engineering 302 or 302H with a grade of at least C–; credit with a grade of at least C– or registration for Mathematics 427K; and credit with a grade of at least C– or registration for Physics 303L and 103N.

Textbook: C. K. Alexander and M. N. O. Sadiku, *Fundamentals of Electric Circuits*, 6th edition, New York: McGraw-Hill, 2016.

- Instructor: Professor Earl Swartzlander
Office: EER 5.874
Phone: 512-471-5923 or 310-702-5756
eswartzla@aol.com
- Office Hours: Monday and Wednesday 3:00 PM to 4:30 PM,
Tuesday 10:00 AM to 2:00 PM or by appointment.
- Teaching Assistant: Yue Cheng.
- The lectures are on Monday and Wednesday from 1:30 to 3:00 PM in EER 1.516.

There is also a lab/recitation session on Tuesday or Thursday according to the following schedule. The lab and recitation sessions are conducted by the Teaching Assistants.

| Unique | Date/Time | Recitation Venue | Lab Venue |
|--------|--------------------------|------------------|-----------|
| 15980 | Tuesday 5:00 to 7:00 PM | EER 1.512 | EER 1.828 |
| 15985 | Thursday 5:00 to 7:00 PM | EER 1.512 | EER 1.828 |
| 15990 | Tuesday 7:00 to 9:00 PM | EER 1.512 | EER 1.828 |
| 15995 | Thursday 7:00 to 9:00 PM | EER 1.512 | EER 1.828 |

- Grade Weights: Examination 1 20%
Examination 2 25%
Final Examination 35%
Homework 10%
Lab Experiments 10%
- The numerical course grade is computed by weighting the raw scores as indicated above. Letter grades are determined via the following scale. Grades are not “curved” in any way. **Plus and minus grades are not used in these sections.**

A = 90%–100%
B = 80%–89%
C = 70%–79%

D = 60%–69%
F = 0%–59%

EE 411 - Circuit Theory Fall 2019

(Unique Numbers 15980, 15985, 15990, and 15995)

- A course/instructor survey will be conducted at the end of the semester via the standard MEC form.
- The examinations will consist of a number of questions for which the answers are to be recorded on an answer sheet. **Only the answers on the answer sheet will be graded.**
- There are no make-up examinations. Excused absence from an examination must be approved in advance. Absence is excused only in extreme circumstances (serious illness, death in the immediate family, etc.). Requests for excused absences should be made in writing and must be supported by appropriate documentation. Unexcused absence from an examination will result in a grade of zero for that examination.
- By UT Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holiday. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holiday, you will be given an opportunity to complete the missed work within a reasonable time after the absence.
- There is no re-grading of examinations, unless you feel that there is an error. In this case, you should submit a written request. Verbal requests will not be considered.
- The fourth class day is the last day of the official add/drop period. Drops after this time must be approved by the Dean's office.
- University policies on scholastic dishonesty will be strictly enforced. Students who violate University rules on scholastic dishonesty (including, but not limited to, cheating, plagiarism, collusion, or falsifying academic records) are subject to disciplinary penalties, including failure in the course or dismissal from the University.
- Disabilities: Upon request the University of Texas at Austin provides appropriate academic adjustments for qualified students with disabilities. For more information, contact the Division of Diversity and Community Engagement, Services for Students with Disabilities at 512-471-6259 or <http://www.utexas.edu/diversity/ddce/ssd/>
- Web-based, password-protected class sites are associated with all academic courses taught at the University. Electronic class rosters are a component of the sites. Students who do not want their names to be included in these electronic class rosters must restrict their directory information in the Office of the Registrar, Main Building, Room 1.

EE 411 - Circuit Theory Fall 2019

(Unique Numbers 15980, 15985, 15990, and 15995)

Emergency Preparedness

Every member of the university community must take appropriate and deliberate action when an emergency strikes a building, a portion of the campus, or entire campus community. Emergency preparedness means we are all ready to act for our own safety and the safety of others during a crisis. It takes an effort by all of us to create and sustain an effective emergency preparedness system.

If you have an emergency either on or off campus, you should call 911 to report the situation.

Please make note of the phone number for the Behavior Concerns Advice Line (BCAL: 512-232-5050). This is the number to call if you have concerns regarding the attitude or actions of other students, staff, or faculty. It is advised that you carry this number with you when you are on campus.

Students requiring assistance in evacuation should inform me in writing of their needs during the first week of class. This information will then be provided to the Fire Prevention Services office.

If you would like more information regarding emergency preparedness, visit <http://www.utexas.edu/safety/preparedness/>.

Emergency Communications

Emergencies may range from inclement weather, to building evacuations, to campus closures. The university has a variety of tools to communicate with the public in the event of these and other possible emergencies. Depending on the type of emergency, the University may use some or all of the following tools to communicate with faculty, staff and students:

Siren System

This system is tested at 11:50 AM on the first Wednesday of every month, and delivers a siren warning and public address announcement in the event of certain outdoor emergencies.

Emergency Web Site

You may want to bookmark the [emergency Web site](#) because it is updated with information during actual emergencies or campus closures.

Local Press and Social Media

University Communications staff sends emergency information to the press and update social media with public safety messages. The university depends a great deal on the press and social media to keep students, faculty, and staff informed during campus emergencies.

Pager System

Our campus first responders, resident advisors, and some building managers are part of the AWACS paging system. The pagers send text messages about emergencies on campus and alert city responders (APD, AFD, EMS, Office of Emergency Management, etc.) to campus crisis situations.

Fire Panel Systems

Residence halls are equipped with fire panel systems that have a public address capability. Resident advisors are trained to use these systems in emergencies in order to make announcements to the entire building regarding evacuation, shelter in place, etc.

EE 411 - Circuit Theory Fall 2019

(Unique Numbers 15980, 15985, 15990, and 15995)

Text Alerts

The university collects cell phone numbers from members of the campus community for emergency text messages.

University Group E-mail

During emergencies, UT Safety Alert sends an “urgent” group e-mail to every student, faculty and staff member. The e-mail directs individuals to the emergency Web site for additional information and instruction.

Voicemail to Office Telephones

This tool leaves a voice message on every faculty and staff member’s office phone on campus.

Cable TV

Residence halls and several of our public gathering places have cable televisions where emergency announcements get posted.

Public Safety Patrol Car Announcements

UTPD patrol cars are equipped with PA systems, which officers can use to provide instructions to pedestrians during emergencies.

University Emergency Information Line — 512-232-9999

Students, faculty, and staff can call this main number for information about campus closures.

EE 411 - Circuit Theory Fall 2019

(Unique Numbers 15980, 15985, 15990, and 15995)

The following lecture schedule is approximate. It indicates the topics, their order and probable examination dates, but it is subject to change.

Lecture Schedule

| DATE: | TEXT STUDY ASSIGNMENT: | |
|--------------------|-----------------------------|-------------------------------|
| August 28 | Course Overview | |
| August 29 | No Recitations | |
| September 2 | No Class (Labor Day) | |
| September 3, 5 | No Recitations | |
| September 4 | Review of Chapters 1-4 | Basic Concepts |
| September 9 | Chapter 5 | Operational Amplifiers |
| September 10, 12 | Lab 1 | Op-Amps |
| September 11 | Chapter 6 | Capacitors and Inductors |
| September 16 | Chapter 7 | First-Order Circuits |
| September 17, 19 | Lab 2 | First Order RC Circuits |
| September 18 | Chapter 7 | First-Order Circuits |
| September 23 | Chapter 8 | RLC Circuits |
| September 24, 26 | Lab 3 | First Order RL Circuits |
| September 25 | Chapter 8 | RLC Circuits |
| September 30 | Chapter 8 | RLC Circuits |
| October 1, 3 | Lab 4 | Second Order RLC Circuits |
| October 2 | Review | |
| October 7 | Exam 1 | Covers Chapters 5-8 |
| October 8, 10 | Recitation | |
| October 9 | Chapter 9 | Sinusoids and Phasors |
| October 14 | Chapter 10 | Sinusoidal Analysis |
| October 15, 17 | Recitation | |
| October 16 | Chapter 10 | Sinusoidal Analysis |
| October 21 | Chapter 11 | Sinusoidal Power Calculations |
| October 22, 24 | Recitation | |
| October 23 | Chapter 11 | Sinusoidal Power Calculations |
| October 28 | Chapter 12 | Three-Phase Circuits |

EE 411 - Circuit Theory Fall 2019

(Unique Numbers 15980, 15985, 15990, and 15995)

| | | |
|-----------------|--------------------------------|-------------------------------|
| October 29, 31 | Recitation | |
| October 30 | Chapter 12 | Three-Phase Circuits |
| November 4 | Chapter 13 | Transformer Circuits |
| November 5, 7 | Recitation | |
| November 6 | Review | |
| November 11 | Exam 2 | Covers Chapters 9 - 13 |
| November 12, 14 | Recitation | |
| November 13 | Chapter 14 | Filters |
| November 18 | Chapter 14 | Filters |
| November 19, 21 | Lab 5 | Filter Frequency Response |
| November 20 | Chapter 14 | Filters |
| November 25 | Review | |
| November 26-29 | No Class (Thanksgiving) | |
| December 2 | Chapter 19 | Two Port Networks |
| December 3, 5 | Recitation | |
| December 4 | Chapter 19 | Two Port Networks |
| December 9 | Review (Last Class Day) | |
| December 13 | 2-5 PM | FINAL EXAMINATION |