ECE 2040 Syllabus

Circuit Analysis, Section A, and 3 Credits

Fall 2026

Instructor Information

Instructor: Michael West

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General Course Information

Description

ECE 2040 is an introductory course that teaches methods of circuit analysis, an understanding of the physical laws governing circuits, and linear elements used in circuits (i.e. resistors, capacitors, inductors).

Course Learning Outcomes

1. Analyze small RLC circuits by hand.
2. Use network techniques, like node analysis and loop analysis, to write equations for large linear circuits.
3. Apply Thevenin and Norton theorems to analyze and design for maximum power transfer.
4. Apply the concept of linearity and the associated technique of superposition to circuits and networks.
5. Analyze circuits containing ideal operational amplifiers.
6. Explain the concept of steady state.
7. Apply phasor analysis to AC circuits in sinusoidal steady state.
8. Analyze the frequency response of circuits containing inductors and capacitors.
9. Construct simple Bode plots for first- and second-order circuits.
10. Apply the Laplace transform to linear circuits and systems.
11. Analyze simple two-port circuits.

Required Course Materials

Dorf & Svoboda, Introduction to Electric Circuits (9th edition), John Wiley, 2013. (required)

Grading Policy:

Grades will be based on a 100 point scale.

Homework	15%
Experiments	5%
Class Participation	15%
Quiz 1	20%
Quiz 2	20%
Final Exam	25%

Homework will be assigned almost weekly on the course website (https://canvas.gatech.edu/). Homework needs to be turned in online by 11:59 pm on the due date via Canvas. In general, **late homework will not be accepted.**

The tests (two quizzes and one final exam) will be given (tentatively) on the dates shown above. In general, **no make-up tests will be given.** If you must miss a test for some reasons beyond your control, please send an e-mail immediately to Dr. West (written official documentation is required within 3 days). If you are excused from a test, the weight of the test will be shifted to the next one. If a student misses a final exam and has a documented legitimate reason, a make-up exam can be arranged.

All tests are closed book and notes. However, a one-page formula sheet (letter size, single side for quizzes and front and back for the final exam) will be allowed. Calculators are also allowed.

All students should check the Final Exam Schedule against their own class schedule and report any conflicts to me as soon as possible, no later than 2 weeks before the Monday of exam week.

Questions concerning a grade given for any assignment or exam must be presented to the instructor within 5 days after the grade is received. No exceptions to this rule will be permitted at any time, for any reason.

Course Policies

Attendance and/or Participation

Class attendance either in person is **very strongly** encouraged, but will not be verified. It is the student's responsibility at all times to keep abreast of course procedural announcements, obtain handouts, etc. All homework, solutions, handouts, etc., will be posted on the Canvas.

Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. Review Georgia Tech's Honor Code and the student Code of Conduct.

Any student suspected of cheating or plagiarism on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Core IMPACTS

Core IMPACTS is the University System of Georgia's General Education curriculum. If you are teaching a course that counts towards Core IMPACTS, you should include a syllabus statement about the Core area and associated career competencies. This resource developed by the Center for Excellence in Teaching and Learning and Online Education at Georgia State University includes template syllabus statements for each of the Core IMPACTS areas that you may adapt for your course.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services (404-894-2563) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Student-Faculty Expectations Agreement

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. The Student-Faculty Expectations articulate some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Campus Resources for Students

Undergraduate Student Academic Success Resources:

- Academic Support: Academic Success and Advising (a unit in the Office of Undergraduate Education & Student Success) provides free support for your courses. Students can attend scheduled supplemental review (PLUS) sessions, stop by Drop-In Tutoring, or schedule a one-on-one appointment through Knack. To

explore what options work best for you, please visit us online at success.gatech.edu/tutoring, email us at tutoring@gatech.edu, or come see us at Clough Undergraduate Learning Commons, Suite 283.

Student Well-Being:

At Georgia Tech, we are concerned about your overall physical, social, and mental well-being. A comprehensive list of wellness related resources has been compiled and maintained by the Office of the Vice President for Student Engagement and Well-being (student-resource-guide (gatech.edu)