

GEORGIA TECH EUROPE
GEORGIA INSTITUTE OF TECHNOLOGY
School of Electrical and Computer Engineering
ECE 2040
Circuit analysis
Fall Semester 2025

Course objective Basic concepts of DC and AC circuit theory and analysis.

Course outline

- Basic Concepts
- DC circuit analysis
- Network Theorems
- Circuits Containing Operational Amplifiers
- First and Second-Order Circuits
- Sinusoidal Steady-State (SSS) Analysis
- Power Analysis

Lectures

This course is 3 SCH. Lectures are 1:15 hour every MW.

Instructor Dr Bertrand P. Boussert, office 225

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Office hours The office hours will be scheduled every Tuesday from 10:00 to 11:00 am. Let me know if you cannot make it and we will find a new time.

Courses prerequisite PHYS 2212/2232 [min C] and MATH 2552 [min C]

Books, handouts The two reference books are: Dorf & Svoboda, Introduction to Electric Circuits (9th edition), John Wiley, 2013. ISBN 9781118477502 (required) (comment: This book is also available for purchase electronically.) This book is optional, but I recommend you have access to this book or similar.

Optional means first check out the book and see if you want to purchase it.

But, the class notes will be adequate if you do not want to go to the expense of purchasing a book or if you do not want to carry one around.

Do not purchase MyDAQs. GTE has them. MyDAQ units will be available to you at GTE; however, you must install the myDAQ software on your laptop prior to coming to GTE. I will not troubleshoot software problems.

Course resources The homeworks and solutions, plus extra resources will be posted on Canvas.

Labs Before coming to GTE, please do Lab0. The labs will be posted on Canvas once the course website is set up. Make sure you install the Elvis software and carry out other steps discussed in Lab0. The software can, I understand, also be installed on a Mac. It is your responsibility to figure this out before coming to GTE. If you are unable to install the software on your laptop, you will need to team up with another student in ECE 2040 or ECE 3710 at GTE who has successfully installed the software to do the labs.

Students may work in a team of two or three, i.e., with a partner. See above to ensure that at least one person on each team has the relevant software successfully installed on a laptop.

Labs will be done in class; however, you are responsible to have read the relevant lab assignment before class and to have done any preparatory work to ensure that you can do the labs efficiently. Lab reports might be assigned to be done in class or as homework. That means, any preparatory questions you can answer before doing the labs should be done before coming to class. You will be responsible for downloading the relevant lab and printing a hard copy of the lab assignment to be turned in at the end of the class period when the lab is done. Your team should turn in one completed lab assignment with all team members' names on it

Homeworks Problems will be assigned roughly every week. Student collaboration on homework is permitted. Homework will be graded, and solutions will be posted the day after submission. Homework is an essential part of the course as problem solving is how most of us learn. It will also help prepare you for the quizzes.

Honor code GT Academic Honor Code is strictly enforced at GT Europe. Adherence to the Georgia Tech Honor Code is expected and all suspected instances of academic misconduct will be reported to the Dean of Students. It is your responsibility to ask for clarification if collaboration guidelines, test-taking policies, etc. are not clear. You will find detailed information at <http://osi.gatech.edu/content/honor-code>.

Attendance policy This class is a core course of your curriculum, you better have to be present. Attendance will be taken at the beginning of each

class. For more information about class attendance at Georgia Tech, you may go to <http://www.catalog.gatech.edu/rules/4/>.

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. See <http://www.catalog.gatech.edu/rules/22/> for an articulation of some basic expectation 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.

Major Emergencies If you have some sort of major life emergency - serious illness or injury, death in the family, etc. - that seriously impedes your progress in the class, please let me know as soon as possible so we can work something out. Don't disappear with no warning half way through, making me think that you dropped the class, and then reappear out of nowhere the week before finals asking what you can do to make things up.

Disabilities Georgia Tech offers accommodation to students with disabilities, this policy is extended to GT Europe. If you need any accommodation, then inform Mrs Corinne Guyot with a certificate from the Office of Disability Services (ODS).

If you have been approved by ODS for an accommodation, I will work closely with you to understand your needs and make a good faith effort to investigate whether or not requested accommodations are possible for this course. If the accommodation request results in a fundamental alteration of the stated learning outcome of this course, ODS, academic advisors, and the school offering the course will work with you to find a suitable alternative that as far as possible preserves your progress toward graduation.

Miscellaneous In classroom, the cellphone is turned off or in Do Not Disturb or Airplane mode, no food or drink during class time. You can use your laptop to take notes but not for gaming.

Grading Your grade will be determined using the following weighting.

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| Homeworks | 10% |
| Labs | 10% |
| Exam #1 | 20% |
| Exam #2 | 20% |
| Final exam | 40% |

The final grade will be curved based on your attendance, performance and participation. Over two unexcused absences, no curving will be applied.

In case of a health issue that prevent you taking an exam, I will require a note from a doctor before rescheduling the exam otherwise you will have an F to the exam.

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Assignments Assignments and solutions will be posted periodically on Canvas. All homework assignments will be submitted through Canvas.