Meeting times: Daily in room SAM 206 from 11:20am to 12:50pm

Instructor: François Lepeintre

Phone: (206) 587-5438


Prerequisites: Physics 202 and Math 125, both with 2.0 or better.

Course Objectives: I hope that after taking this class you will have a better idea of what it means to apply the principles of electricity to practical Engineering problems. The goal is to help you develop your Engineering sense (and have fun doing so!). At the end of the class, you should know how to analyze an electric circuit made of simple components. This means understanding the important physics concepts such as voltage, current, power, and how these quantities can be related in a given circuit. It also means getting to understand the behaviors of ubiquitous basic circuit components, such as resistors, capacitors, inductors and op amps. And last, it means knowing how to use mathematics in the context of Engineering (yes this is a calculus based course).

Course Content: Covers basic circuit and systems concepts. Resistors, sources, capacitors, inductors and operational amplifiers. Includes solution of first and second order linear differential equations associated with basic circuit forms. We should cover the first eight chapters of the textbook.

Grading: Homework + Lab: 25%
Project + presentation: 15%
Midterm: 25%
Final: 35%

Exams:
There will be 2 exams: Dates will be given later in the quarter. There won't be any makeup exams. The class before an exam date will be devoted to reviewing.

Homework + Labs:
A set of problems from the text will be assigned on a weekly basis. These assignments are chosen to highlight the important concepts and problem solving techniques found in the chapter.

There will be five labs, during which you will study basic electrical circuits. Labs and homework will be group assignments. You can form groups of 3-4 students.

Your lab reports and homework sets must be turned in on time. I won't accept any late homework. On the due date, I will post solutions.

Project:
A key part of the Electrical Engineering profession is to design circuits. In this class, you will be asked to design, analyze and build a circuit. You can come up with your own design (as long as it meets the class requirements), or choose from a list that will be made available. Part of the project is to present the circuit to the class.

Special Assistance:
If you need course adaptations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please see me during my office hours as soon as possible. I am happy to help you in any way I possibly can.

My contract to you!
If you come to class, do your homework and genuinely try to learn the concepts, I promise you to do my best to make your time as valuable as I can!

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