

Physics 335: Electronics & Circuits I

Fall Term 2009
MWF 2:00-2:50
PSCI 107

Instructor

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Textbook

The Art of Electronics
P. Horowitz and W. Hill
Cambridge University Press, 1989
ISBN: 0521370957

Course Overview

In this course we explore rudimentary physical, mathematical, and technological underpinnings of electronics. We learn useful design techniques, and build a variety of interesting and practical circuits. This course involves linear, lumped parameter circuits, and also non-linear devices such as diodes and transistors, used to build filters and amplifiers. The final third of the class involves digital logic and basic digital circuitry.

Prerequisites

Students should have completed Phys 204 (General Physics II) and should either have completed Math 276 (Calculus III), or be taking this course concurrently.

Office Hours

I hold office hours from 10:00 am until noon Mondays and Wednesdays. During these times I'll be in my office, and will be happy to meet with any student. Alternatively, students are encouraged to email or phone me to schedule an appointment. Please leave a voice message if I'm not in the office. I'll make every effort to accommodate you.

Exams

There will be two in-class midterm exam, one theoretical and the other practical. (The practical exam will involve building circuits to perform tasks.) There will also be a final exam, which will involve problem solving and circuit building. Only serious, utterly unavoidable, fully-verifiable excuses will be accepted to explain absence from any of the three examinations. In almost all circumstances, a missed exam will result in an exam grade of zero.

Laboratory

We will have a practical laboratory meeting each Thursday afternoon, from 10:00 am until 12:50 pm, in PSI 107. This period will provide an entirely hands-on experience, which will directly illuminate the concepts learned in the lecture period. We will become familiar with many electronic devices, and will build circuits with a variety of interesting and useful functions. Attendance and participation in each laboratory period is mandatory.

Grading

You will receive a numerical grade for this course, computed using the following scheme:

Laboratory	25%
Midterm Exam #1	25%
Midterm Exam #2	25%
Final Exam	25%
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Total	100%

The numerical course grade will be converted to a letter grade using a fair and generous grading curve.

Emergency Evacuation/Shelter-in-Place Procedures

In the event of an emergency evacuation (i.e., fire or other emergency), classes meeting in this building are directed to reassemble at [insert location from Emergency Procedures document] so that all persons can be accounted for. Complete details of the emergency evacuation, shelter-in-place, and other emergency procedures can be found at <http://www.oneonta.edu/security>.