

Electronics Laboratory
Physics 29A
Fall 2007
MW 2-5 (lecture 2-3; lab 3-5)

Instructor Information

Name: Lawrence Kirsch
e-mail: kirsch@brandeis.edu
Office:
Phone: 781-737-2920
Office Hours: By appointment

Prerequisites

Physics 11b,19 or equivalent
Textbooks (not required) Simpson- Introductory Electronics for Scientists and Engineers

Homework Assignments

Assignments will be graded, but are not part of the final grade

Grades

Lab Reports:	50%
Mid-Term Exam:	16.7%
Final Exam	33.3%

Lab Reports

Required for the completion of each laboratory. Length of the labs will vary depending on difficulty. Reports are due one week after the completion of the lab as indicated in class.

Exams:

Exams are closed book and based on the class and laboratory material.

Topics:

Analog Circuits and Devices will be discussed in lecture and used during labs.

- 1) DC Circuits- Thevinin's Theorem
- 2) AC Circuits- Complex Impedences, Phasors, Resonances

- 3) Signals and Filters
 - Passive RC, LRC filters
 - Sequential RC filters
- 4) Diodes- Circuits
- 5) Bipolar Transistors
 - Models
 - Amplifier configurations
 - Multiple transistor circuits
- 6) Operational Amplifiers-
 - Feedback
 - Active Filters
 - Oscillators

TOOLS

- 1) Laboratory Work- Scopes, Meters, Breadboards, Devices, Data Capture
- 2) Analytic- Data analysis, Spreadsheets
- 3) Simulation- PSPICE