

Physics 440 -- Electronics
SUNY College at Cortland
Physics Department

Catalog Description: A survey of D.C. and A.C. circuits, semiconductor devices and electronic test equipment. Prerequisite: PHY 202. Not open to students with credit for PHY 540. Lecture/Lab Hours: Two lectures, one three-hour laboratory. (3 cr. hr.)

Required Texts: *Introductory Electronics For Scientists and Engineers*, by Robert Simpson (2nd Edition)
and
Physics 440 Laboratory Manual, Richard M. Wheeler, 2005 edition, unpublished.

Course Information:

Spring 2009 Term, 3 credit hours
Lecture TR 8:30 - 9:20
Laboratory T 9:30 - 12:30
Bowers Hall 139

Professor Information:

Dr. Brice Smith
Bowers 143 (office)
Bowers 141 (lab)
brice.smith@cortland.edu

Office Hours:

MWF 9:00-10:00am and 12:30-2:00pm
(Please make an appointment if you would like to see me at another time.)

Attendance Policy: Attendance in the laboratory is mandatory. Three or more unexcused labs will be grounds for failing the course.

Evaluation of Student Grades will be based on the total points accumulated from the following components:

3 Take Home Exams	70 points each
Final Exam	90 points
Homework	140 points
Laboratories	160 points

Maximum Points Possible: 600

Problem sets will typically be handed out on Thursday and will be due the following Thursday when an answer key will be provided. Late problem sets will not generally be accepted. For the laboratories, you will hand in the data sheet and graphs within one week of the completion of the lab. A final curve will be established at the end of the course for the assignment of individual letter grades.

Tests: Tests will be handed out on March 3, March 31, and April 28

Students with a Disability:

If you are a student with a disability and wish to request accommodations, please contact the Office of Student Disability Services located in B-40 VanHoesen or call (607) 753-2066 for an appointment. Information regarding your disability will be treated in a confidential manner. Because many accommodations require early planning, requests for accommodations should be made as early as possible.

Physics 440 -- Spring 2009

<u>Date</u>	<u>Topic</u>	<u>Text</u>
Jan. 22, 27, 29	Direct Current Circuits Laboratory 1: Ammeters and Voltmeters	Chapter 1
Feb. 3, 5	Direct Current Circuits Laboratory 2: Kirchhoff's Laws and Thevenin's Theorem	Chapter 1
Feb. 10, 12	Alternating Current Circuits Laboratory 3: The Oscilloscope	Chapter 2
Feb. 17, 19	Alternating Current Circuits Laboratory 4: The RC Circuit	Chapter 2
Feb. 24, 26	Fourier Analysis and Pulses Laboratory 5: LRC Circuits	Chapter 3
Mar. 3, 5	Fourier Analysis and Pulses <i>Exam One</i>	Chapter 3
Mar. 10, 12	<i>Spring Break - No Classes</i>	
Mar. 17, 19	Semiconductor Physics Laboratory 6: The Diode	Chapter 4
Mar. 24, 26	Semiconductor Physics Laboratory 7: Diode Circuits	Chapter 4
Mar. 31, Apr. 2	Semiconductor Physics <i>Exam Two</i>	Chapter 4
Apr. 7, 9	The Bipolar Transistor Laboratory 8: The Zener Diode and Regulation	Chapter 5
Apr. 14, 16	The Bipolar Transistor Laboratory 9: The Transistor - Common Emitter Configuration	Chapter 5
Apr. 21, 23	The Bipolar Transistor Laboratory 10: The Transistor Amplifier	Chapter 5
Apr. 28, 30	The Field-Effect Transistor (FET) <i>Exam Three</i>	Chapter 6
May 5	The Field-Effect Transistor (FET)	Chapter 6