

**Saddleback College**  
**Division of Advanced Technology and Applied Science**  
**Electronic Technology 133**  
**DC and AC Fundamentals**  
**Fall 2004**

**Instructor:** Eugene J. Evancoe (Office TAS 111, 949-582-4879, [EEVANCOE@SADDLEBACK.CC.CA.US](mailto:EEVANCOE@SADDLEBACK.CC.CA.US)),

**Text:** Basic Electronics, Grob, Ninth Edition, McGraw-Hill

**Lab Manual:** Experiments in Basic Electronics, Pugh/Ponick, Fifth Edition, McGraw-Hill

**Course Description:** fundamentals of D.C. and A.C. electronic components and circuits. Includes laboratory experiments to observe and measure concepts studied.

**Course Grading:** based on a class curve, not an absolute numerical scale

Homework      15% (each 2 pts. max, lowest 2 scores dropped)  
Quizzes        30 % (each 5 pts. max, lowest 2 scores dropped, open notes/closed book);  
note: quizzes will be given on the first class meeting of the week unless it is a holiday, then the second class of the week  
Lab Reports    40% (each 5 pts. max, lowest 2 scores dropped)  
Final Exam    15%

**Absences:** you must notify me before the quiz is taken or homework or lab report is due in order to be allowed to makeup a quiz or avoid a late penalty on an assignment or report. No quiz may be made up after the graded quiz is returned to the rest of the class.

**Lab Report/Homework Due Date:** during the last class meeting of the week after the experiment is performed or the chapter is completed in class. Late reports or assignments will be accepted for up to half credit. No report or assignment will be accepted more than two weeks after it is scheduled to be turned in.

**Lab Report Grading:** each experiment will have a separate report and be graded 0-5:  
Experimental data and graphs (if applicable): 0-3 points  
Answers to questions in lab manual: 0-1 point  
Conclusion: 0-1 point (see description below)

**Lab Report Conclusion** (one required for each experiment): in one typed paragraph of 3-4 sentences, tell what you learned from the experiment. Describe the general principles or concepts you observed which were specific and distinct to this experiment. Do not list what you did (procedure) or the numerical results; this paragraph should be in the form of an “executive summary” or short report you might submit to your supervisor on a job.

**Quiz Score Improvement Opportunity:** if you score less than 3 (out of 5) on a quiz, you may increase your score for that quiz to a maximum of 3 by successfully completing the relevant computer lesson (assigned by instructor) within one week of when the graded quiz is returned in class.

**Attendance Policy:** regular attendance will be necessary for success in this class. In the case of borderline grades, attendance and class participation will be strongly considered.

### Course Schedule:

Wk.	Mon./Wed. Lect.	Mon./Wed. Lab	Tues./Thurs. Lect.	Tues./Thurs. Lab	Quiz
1	Course Intro, Ch.1	Lab Intro	Course Intro, Ch.1	Lab Intro	None
2	Ch.2, 3	#2-2	Ch. 2, 3	#2-2, 7-3	#1 (Ch. 1)
3	No Class (M), Ch. 3	#7-3, 3-1	Ch. 3,4	#3-1, 3-2	None
4	Ch. 4,5	#3-2, 4-1	Ch. 5	#4-1, 5-1	#2 (Ch. 2-3)
5	Ch. 5, 6 (Sects. 1-3, 6-7)	#5-1, 5-4	Ch. 6 (Sects. 1-3, 6-7), 7 (Sects. 1-4)	#5-4, 6-2	#3 (Ch. 4)
6	Ch. 7 (Sects. 1-4), 8	#6-2, 7-1	Ch. 8, 9 (Sects. 1-2)	#7-1, 7-2	#4 (Ch. 5)
7	Ch. 9 (Sects. 1-2), 12 (Sects. 1,10-15)	#4-5, 12-1	Ch. 12 (Sects. 1,10-15), 13,15	#4-5, 12-1	#5 (Ch. 6-7)
8	Ch. 13, 15, 16	#12-2, 16-1	Ch. 16	#16-1, 16-2	#6 (Ch. 8-9)
9	Ch. 16, App. D, Ch. 17	#16-2, 16-3	Ch. 16, App. D, 17	#16-3, 16-4	#7 (Ch. 12,13,15)
10	Ch. 18, 19	#16-4, 17-1	Ch. 18,19	#17-1, 18-1	#8 (Ch. 16)
11	Ch. 20	#18-1, 19-2	Ch. 20	#19-2, Soldering Video, Soldering	#9 (Ch. 17-18)
12	Ch. 21	Soldering Video, Soldering	Ch. 21-22	#21-1, Soldering	#10 (Ch. 19)
13	Ch. 22, 23	#21-1, Soldering	Ch. 23	#23-1	#11 (Ch. 20)
14	Ch. 23, 24	#23-1, 24-1	Ch. 24, No Class (TH)	#24-1	#12 (Ch.21-22)
15	Ch. 24, 26 (skip Sect. 26-9)	#16-5, 26-1	Ch. 24, 26 (skip Sect. 26-9)	#16-5, 26-1	#13 (Ch. 23)
16	Ch. 27	#27-1	Ch. 27	#27-1	None

### Major Topics to Be Studied:

<p>Ch. 1 – Electricity          Ch. 3 – Ohm’s Law          Ch. 5 – Parallel Circuits          Ch. 7 – Voltage Dividers and Current Dividers          Ch. 9 – Kirchoff’s Laws          Ch. 13 – Magnetism          Ch. 16 – Alternating Current and Voltage          Ch. 18 – Capacitive Reactance          Ch. 20 – Inductance          Ch. 22 – Inductive Circuits          Ch. 24 – Alternating Current Circuits          Ch. 27 - Filters</p>	<p>Ch. 2 – Resistors          Ch. 4 – Series Circuits          Ch. 6 – Series – Parallel Circuits          Ch. 8 – Direct Current Meters          Ch. 12 – Batteries          Ch. 15 – Electromagnetic Induction          Ch. 17 – Capacitance          Ch. 19 – Capacitive Circuits          Ch. 21 – Inductive Reactance          Ch. 23 – Time Constants          Ch. 26 – Resonance</p>
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