

Course Syllabus: Physics 475, UH Fall Semester 2017

Instructor: Prof. Gary Varner

Class Hours: T Th 10:30 - 11:45am, Lab Th 12:30 - 3:20 Watanabe 415A

week	date	Lecture topics	Reading/Laboratory topics
1	22-Aug	Overview of electronics	Intro, Chap 1 - 12
	24-Aug	V,I,R, signals	LAB1: Intro/DC circuits
2	29-Aug	AC circuits	Chap 13 - 26
	31-Aug	Time/frequency domains	LAB2: Capacitors
3	5-Sep	Diodes	Chap 27
	7-Sep		LAB3: Diode circuits
4	12-Sep	Transistors	Chap 28 - 29
	14-Sep		LAB4: Transistors
5	19-Sep	Field Effect Transistors	Chap 30 - 31
	21-Sep		LAB5: FETs
6	26-Sep	Operational Amplifiers (I)	Chap 33
	28-Sep		LAB6: Op Amps I
7	3-Oct	Op Amps (II)	Chap 33
	5-Oct		LAB7: Op Amps II
8	10-Oct	Comparators & Vreg	Review
	12-Oct	Midterm #1	LAB8: Comparators
9	17-Oct	555 timer, AMUX, review	Class Notes
	19-Oct	Digital Logic I	LAB9: Logical Gates
10	24-Oct	Digital Logic II	Class Notes
	26-Oct	Flip Flops	LAB10: Flip-flops
11	31-Oct	Counters / Comp Intro	Class Notes
	2-Nov	Intro to Programmable Logic	LAB11: Counters and Timers
12	7-Nov	Programmable Logic II	Class Notes
	9-Nov	FW2 & Digital -> Analog	LAB12: Programmable Logic Intro
13	14-Nov	FW3 & Analog -> Digital	Class Notes
	16-Nov	Computers	LAB13: Prog Logic / A-D & D-A
14	21-Nov	Midterm #2	
	23-Nov	Holiday: Thanksgiving	
15	28-Nov	Student Project work	
	30-Nov	Design Review	Student project work
16	5-Dec	Student Project work	
	7-Dec	Student Project work	Student project work
17	8-Dec	Final Presentations (TBC) -- Project Write-ups due by 5pm (12/?)	

HEPIC
B2GM
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Prerequisite: Physics 272L, and at least junior standing, or permission from instructor

Text: Schultz: *Grob's Basic Electronics, 11th Edition*

Optional/Reference: Horowitz and Hill: *The Art of Electronics*

Office hours: WAT214 M 4-5pm, during lab period, any afternoon in WAT214 by appointment

email: varner@phys.hawaii.edu

Lecture: T Th 10:30 - 11:45am WAT 415A

Lab: Th 12:30 - 3:20 WAT415A, mandatory. **Scientific Calculator & lab notebook also mandatory**

Writing Intensive: Scientific writing and lab reports will be critiqued and graded on both lab and writing techniques by the formula at the bottom:

40% of the course grade is determined by satisfactory completion of the writing assignments

Homework: Assigned Tuesday, due next Tuesday, no late homework.

Grading: Based on curve derived from Total (100) = (MT1(100)+MT2(100)+HW(100)+FINAL(100)+Lab(100))/5