

Physics 305/505 Electronic Circuits and Devices  
 Approximate Course Schedule  
 (Test dates, assignment and lab due dates are firm)

DATE	Lect. No.	Lab. No.	Topic or Title	Reference in Text
9/6		1 2	<i>D.C. Circuits and Instruments</i> <i>Begin Diode Characteristics</i>	
9/7	1		Ohm's Law, D.C. Circuits Kirchoff's Laws, Thermistor Voltage and Current Generator	P 1-15 p. 18-19 p. 128-131
9/8	2		Thevenin's and Norton's Equivalent Circuits	p. 37-42
9/13		2 3	<i>Diode Characteristics</i> <i>Transistors as Switches</i>	
9/14	3		Diodes	p. 113-122
9/15	4		Transistor as Switch, Wheatstone Bridge	P. 298-303 Chapter 3
9/20		3 4	<i>Transistors as Switches</i> <i>D.C. Networks and Wheatstone Bridge</i>	
9/21	5		Three- and Four- Terminal Networks	Material in Lab Manual
9/22	6		Reciprocity Theorem Review, Assignment 1 Due	Material in Lab Manual
9/27		5	<i>Sine Wave Response</i> <i>Hand in Labs 1-3</i>	
9/28	7		AC Circuit Introduction	
9/29	8		TEST on material in lectures 1-6, Assignments 1 and 2, Labs 1-4	
10/4		5	<i>Sine Wave Response</i>	
10/5	9		Go over test. AC Continuation	p. 20-25
10/6	10		RC and LR Circuits, Transformers, Passive Filters	p. 26, 28, 33-36
10/11		8	<i>Power Supplies</i>	
10/12	11		Resonant Circuits, Passive Filters, and Power Supplies	p. 123-135, Lab Manual, Appendix D
10/13	12		More Diode Circuits, LaPlace Transforms, and Transients	p. 29, 30-43, Appendix E
10/18		6 7	<i>Transient Response</i> <i>Diode Circuits</i>	
10/19	13		Review, Assignment 4a Due	

10/20	14		Fourier Analysis and Synthesis	
10/25		5-8	<i>Complete any unfinished work on labs 5-8</i>	
10/26	15		Test on Material in Lectures 8-13, Assignments 3-4 & Labs 5-8	
10/27	16		Amplifiers, Op Amps	Text, Chapter 5,6, handout
11/1		9	<i>Op-Amps</i>	
11/2	17		Amplifiers, Op Amps, Assignment 4b Due	Text, Chapter 5, 6
11/3	18		More on Op Amps, go over Test 2	
11/8		9,10	<i>Finish Lab 9, Special Purpose Op Amps</i>	
11/9	19		SCR Devices	Text, Chapter 6, p. 309-317
11/10	20		Assignment 5 Due	
11/15		10 11	<i>Finish Lab 10 Op Amp Open Loop, Common Mode</i>	
11/16	21		Review, Assignment 6 Due, Start Transistor Basics	
11/17	22		Test 3, Ch. 5, 6 & SCR-type devices Labs 9-10 due	
			THANKSGIVING VACATION	
11/29		12 13 14	<i>Bipolar Transistor Basics Bipolar Transistors: Amplifying Circuits Field Effect Transistors</i>	
11/30	23		Bipolar Transistors, Transistor Amplifiers	Text p. 280-289
12/1	24		Field Effect Transistors	Hand-out
12/6			<i>Lab Test Week</i>	
12/7	25		Oscillators, Power Amplifiers	Text p. 289-308 and hand-out
12/8	26		Transistors, Oscillators, and Mixers	
12/13		12 13 15	<i>Bipolar Transistor Basics Bipolar Transistors: Amplifying Circuits Oscillators</i>	
12/14	27		Radio frequency, mixers, Final Topics, Assignment 7 Due	
12/15	28		Labs 12-15 due Last Day of Semester. Assignment 8, final exam due	Hand-out material

Note: Transducers (Chapter A3) and noise and interference are covered more extensively in Physics 405/605, Modern Instrumentation and Interfacing, and particle detection and phototubes are covered in Physics 308, Experimental Physics. Digital electronics topics and the 555 timer chip (Chapter A7) are covered in the digital course Physics 311.