ECE231 Detailed Course Schedule

Week	Lecture	Section	Description	Assigned Textbook Problems	Exercises	Labs	Tutorials	Test
2020-01-06	1		Course outline			Lab 1 PRA01*/03/05	No tutorials this week	
	1	§1.1, 1.4	Amplifiers	17		* Note that Lab #1 for PRA01 will happen on Wed. Jan 8, 9-11am (not in the regular Tue. slot)		
	2	§1.5	Circuit Models for Amplifiers	43, 46, 51(a-d)				
	3	§1.6	Frequency Response of Amplifiers, STC circuits, Bode Plots		23			
2020-01-13	4	§1.6	Frequency Response of Amplifiers, STC circuits, Bode Plots	67, 71, 78		Lab 1 PRA02/04/06	amplifier circuit models, ideal opamp circuits, frequency response, Bode Plots	
	5	§2.1~2.4	Ideal op amp circuits: inverting and noninverting configurations, difference amplifiers	2, 8, 14, 20, 23, 29, 54, 59, 62				
	6	§2.5	Integrators and Differentiators	81, 85, 86, 92				
2020-01-20	7	§2.6	DC Imperfections	97, 99, 104	23, 24, 25	Lab 2 PRA01/03/05	Integrators, difference amplifiers, dc imperfections	
	8	§2.7	Effect of Finite Open-Loop Gain and Bandwidth on Circuit Performance	111, 112, 114, 119				
	9	§2.8	Large Signal Operation of Op Amps	123, 125, 127	29, 30			
2020-01-27	10	§3.1-3.3	Introduction to semiconductor physics			Lab 2 PRA02/04/06	Finite op amp bandwidth and slew rate limitations, cover past quizzes & tests	
	11	§4.1	the Ideal Diode, Simple Diode Circuits	2, 4, 9	4, 5			
	12	§4.2	Terminal Characteristics of Junction Diodes	20, 23, 26	6, 7, 9			
2020-02-03	13	§4.3.1 to 4.3.6	diode models:Exponential, constant-voltage-drop, and ideal	33, 35, 38, 46, 51	13, 14	Lab 3 PRA01/03/05	Analyzing diode circuits, pn junction circuits: large and small-signal analysis	
	14	§4.3.7	small-signal diode model: derivation and applications					Quiz 1 (online). Feb. 5, 6pm

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	15	§4.5	Rectifier Circuits: half-wave, full-wave, bridge, peak, precision half-wave	83	24, 25			
2020-02-10	16	§4.6	Limiting and Clamping Circuits	85, 90, 94, 95(skip f & h)	26, 27	Lab 3 PRA02/04/06	Analyzing diode circuits, limiting and clamping circuits	
	17		Review session					
	18	§5.1	Introduce transistor concept, Structure and Operation of a MOSFET	13, 14				
2020-02-17			**READING WEEK**					
2020-02-24	19	§5.1.1 to 5.1.5	Operating Regions of a MOSFET (cut-off and triode)			Lab 4 PRA01/03/05	Midterm review	
	20	§5.1.6 to 5.1.8	Operating Regions of a MOSFET (saturation), p-channel MOSFETs					Midterm (Feb 27, 6pm)
	21	§5.2	Current-Voltage Characteristics: symbols, output resistance	17, 18, 38, 43	5, 7			
2020-03-02	22	§5.3	DC Circuit Analysis for MOSFETs	44, 46, 54, 59		Lab 4 PRA02/04/06	Identifying MOSFET operating region, past quizzes & tests	
	23	§6.2	BJT Current-Voltage (I-V) characteristics	28	20			
	24	§6.3	BJTCircuits at DC	54,61	22			
2020-03-09	25	§8.2.1,8.2.2,8.2.3	Current Mirrors and Current Steerting Circuits	6,12	3	Lab 5 PRA01/03/05	DC circuit analysis for MOSFETs	
	26	§7.1	Transistor Amplifiers - Basic Principles	5,6,9,10,17	2,3			
	27	§7.2	Small-Signal Model and Operation	25,32	5,10,14			
2020-03-16	28	§7.2	Small-Signal Model and Operation	48,58		Lab 5 PRA02/04/06	BJT (I-V characteristics and DC circuits)	
	29	§7.3	Basic Amplifier Configurations	64,65,70,73,78,83	21,25,30			
	30	§7.3	Basic Amplifier Configurations	85,88				Quiz 2 (March 18, 6pm)
2020-03-23	31	§7.3	Basic Amplifier Configurations			Lab 6 PRA01/03/05	Transistor Amplfiers	
	32	§7.3	Basic Amplifier Configurations					

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	33	§7.4	Biasing	92,101,102	31			
2020-03-30	34		Review session			Lab 6 PRA02/04/06	Transitors Amplifiers and course review	
	35	§7.5	Discrete-Circuit Amplifiers & Examples	118ab,119ab,120,121				
	36	§7.5	Discrete-Circuit Amplifiers & Examples	125,129,133,135				
2020-04-06	37		Course review, past exams				Transitors Amplifiers and course review	
	38		Course review, past exams					
2020-04-10			STUDY DAY - No classes					