

Florida Atlantic University
Department of Computer & Electrical Engineering & Computer Science
Dr. Zvi S. Roth

EEE 4361 Electronics 2

Lecture videos were recorded in Fall 2009

27 videos of 1:20 hours each

Orcad Lite (PSPICE) 9.2 Tutorials (shown in red)

Lecture Video	Topic
1	Course Introduction; Syllabus and grading policy PSPICE Tutorial (PowerPoint presentation using MOSFET example)
2	PSPICE Tutorial (PowerPoint presentation continued) Analysis of CE Amplifier PSPICE: Analysis tools of electronic amplifiers – Bias Point, Transient
3	Analysis of CE Amplifier (continued) PSPICE: Analysis tools of electronic amplifiers – AC Sweep, FFT and Distortion analysis
4	Design of CE Amplifier PSPICE: Tweaking techniques, Tolerances and Monte Carlo.
5	Analysis Emitter Follower Amplifier; Design of CE Amplifier with Emitter Follower Stages, with PSPICE design verification
6	BJT Current Mirror Current Sources – basic and advanced
7	Basics of BJT Differential Amplifiers; DC characteristics of BJT Differential Amplifiers; PSPICE: Differential amplifiers basics
8	Small-signal differential mode analysis of differential amplifiers ; Common-Mode Analysis of Differential Amplifiers
9	Design of Differential Amplifiers PSPICE: Differential Amplifier Design, Current Mirror current source selection, Differential Mode, Common-Mode and combined mode measurements
10	PSPICE: Differential Amplifiers (continued) Class A Power Amplifiers – analysis and design
11	Basics of the 555 Timer
12	Class B Power Amplifiers – analysis and design; PSPICE: Amplifiers average power dissipation and amplifier efficiency computation; Crossover distortion elimination
13	Multi-Stage Amplifiers: DC Considerations and Gain Calculations
15	PSPICE: Simulation of multi-stage amplifier – DC considerations, zero output offset adjustment, gain measurement of each stage, input resistance measurement, output resistance measurement
16	Bode diagrams gain-frequency computations and examples; Transistor High-Frequency small-signal model;
17	Miller's Theorem

	PSPICE: Review of Bode plots; LAPLACE blocks
18	High-Frequency Response of CS Amplifiers and Miller effect
14	Partial Review for Midterm Exam: CE and Emitter Follower Amplifiers, Current Mirror Current Sources, Differential Amplifiers
19	High-Frequency Response of CE Amplifiers; Mid-Band & High Frequency Response of CB Amplifiers
20	Mid-Band & HF Response of Cascode Amplifier PSPICE: Cascoding a CE amplifier
21	555 Timer: Advanced Applications – sawtooth wave oscillator, missing pulse detector, analog frequency meter PSPICE: Cascoding Differential Amplifiers
22	555 Timer Advanced Applications: Analog capacitance meter; PSPICE: LOPAS filter component, Analog frequency meter, missing pulse detector; Basic concepts of Feedback Amplifiers
23	Voltage Feedback Amplifier Analysis
24	Stabilization of multi-stage feedback amplifiers PSPICE: Phase Margin and Instability; Feedback Stabilization – block diagram demonstration
25	PSPICE: Amplifier Stabilization and Compensation Design – Multi-Stage Amplifier revisited
26	General analysis of feedback amplifiers; Examples of transresistance and transconductance amplifiers Feedback Amplifiers Design; Examples
27	Feedback Amplifiers design - examples Partial Review for Final Exam: Multi-Stage Amplifiers, HF Response of Amplifiers, Feedback