

ECE 2C Spring 2008 schedule
(Last updated 3/31/08, subject to change)

Week	Lecture Topics	Readings	HW	Lab
3/31	[3/31] Frequency response of amplifiers; STC networks; DC vs. AC coupled; LPF, HPF & BPF Ideal op amp circuits; Inverting & Non-inverting amp; Difference Amp [4/2] Fourier series and Fourier transform techniques for circuit analysis	S&S 1.6, Apdx D S&S 2.1-2.3, 2.4.1 S&S 1.2 T&R Ch. 13		Lab 1a Audio Amplifier Circuit (Lab sessions on Wed 4/2 only, open to all students.)
4/7	[4/7] MOSFET physical operation, IV characteristics and small-signal models (concept of linearization, small-signal approximation); DC biasing; DC and small-signal mid-band analysis [4/9] Basic single-stage amplifiers: CS, CS with source degeneration, CG and SF; CMOS current mirrors; CS amp with active load	S&S 4.1-4.3, 4.5-4.6 S&S 4.7, 6.3.1, 6.3.2, 6.5	HW#1 due on 4/7	Lab 1a Audio Amplifier Circuit
4/14	[4/14] High-frequency MOSFET model; Frequency response of CS amplifiers; Miller's Theorem; Open-circuit Time Constant (OTC) method [4/16] Solving for the high-frequency response of a CS amp	S&S 4.8, 4.9, 6.4 S&S 6.6.1-6.6.3	HW#2 due on 4/14	Lab 1b Microphone Circuit (Lab 1a reports due in your lab session)
4/21	[4/21] Review [4/23] Quiz #1 in class		HW#3 due on 4/21	Lab 2 MOSFET Amplifier Basics (Lab 1b reports due in your lab session)
4/28	[4/28] BJT physical operation, IV characteristics; DC biasing and small-signal models [4/30] Basic amplifier stages: CE, CB and EF; High-frequency BJT model; Frequency response of single-stage BJT amplifiers	S&S 5.1-5.2, 5.4-5.6 S&S 5.7, 5.8, 5.9		Lab 3 Frequency Response of BJT Amplifiers (Lab 2 reports due in lab)
5/5	[5/5] Basic communications concepts: AM and FM modulation, bandwidth, digital communications; Two-port network parameters: Z/Y/h/ABCD [5/7] Two-transistor gain stages: cascode, Darlington pair	S&S 6.8.1-6.8.4, 6.11	HW#4 due on 5/5	Lab 4 Ultrasonic AM Receiver (Lab 3 reports due in lab)
5/12	[5/12] Differential amplifiers [5/14] Differential amplifiers with active load	S&S 7.1-7.4 S&S 7.5-7.6	HW#5 due on 5/12	(5) AM Modulator & Ultrasonic Transceiver (2 weeks)
5/19	[5/19] Two-stage CMOS op amp [5/21] Quiz #2 in class (if time permits)	S&S 7.7.1, 9.1	HW#6 due on 5/19	(Lab 4 reports due in lab)
5/26	[5/26] Holiday [5/28] Op-amps non-idealities			Make-up lab sessions
6/2	[6/2] Analog-digital and Digital-Analog conversion, sampling concepts [6/4] Final Review	S&S 9.7-9.9	HW#7 due on 6/4	(Lab 5 reports due on 6/4 in class)
6/9	[6/13] Fri. 12-3PM Comprehensive Final Exam			