

KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS

Electrical Engineering Department

EE303: Electronics II (TERM 141)

Dr. Saad M. Al-shahrani	Office # 68-272	Tel. 1508	OH: M,W 11:15-12:00	Email: saadms@kfupm.edu.sa
-------------------------	--------------------	--------------	---------------------	-------------------------------

W	Date	Topics	Text	Lab./PSpice
1	31Aug-4Sep	Introduction differential amplifier. MOS Differential pair: common- mode and differential-mode input ranges, large signal operation, small signal operation	7.1, 7.2 (Excluding mismatch analysis)	NO LAB
2	7-11Sep	BJT Differential amplifiers: DC analysis, large signal operation, small signal operation, Differential amplifier with active load.	7.3, 7.5 (Excluding V_{offset})	Tutorial : Net Listing and Simulation Analysis Using SPICE
3	14-18Sep	Frequency response of amplifiers: Introduction, Amplifier transfer function, Poles, Zeros, Low frequency response of CS and CE amplifiers	1.6, Appendix D Appendix E	Expt 1: Differential Amplifier
4	21-28Sep	High frequency response of amplifiers: Internal capacitances MOSFET and BJT, High frequency model, Cutoff frequency of transistors, The three frequency bands, Miller's Theorem, CS amplifier	8.1 8.2 8.3 8.4	NO LAB
28Sep-11Oct Eid Break ٤-١٧ ذوالحجة				
5	12-16Oct	High frequency response of the CE, Frequency Response of other amplifiers: CB, CG, Emitter and Source followers, Cascode & multisatage amplifiers. Frequency response of the opamp, gain-bandwidth product limitation.	8.6 8.7 8.9.2 8.9.3	Expt 2 : Frequency Response of the Common Source Amplifier
Major Exam 1: Sun 19Oct 5:30-7:00 Pm				
6	19-23Oct	Negative Feedback: Propoorities, Topologies, Study of Series-Shunt feedback Amplifier	9.1, 9.2, 9.3, 9.4	NO LAB
7	26-30Oct	Study of Series-Series, Shunt-Shunt, and Shunt-Series amplifiers	9.5, 9.6, 9.7	NO LAB
8	2-6Nov	Analysis and Design of amplifiers using feedback thory: Additional Examples	Handout	Expt 3: Frequency response of multistage transistor amplifiers
9	9-13Nov	Filters: Fiter Transmission, Types, Transfer function, 1 st Order filters passive and active.	11.1-11.2	Expt 4: Frequency response of op amp based amplifiers
10	16-20Nov	2 nd order filter expressions, passive LCR filters, singal amplifier filters	11.4-11.5	Expt 7: Applying Negative Feedback on Amplifiers and Rectifiers.
11	23-27Nov	Biquadratic active filters realizations: Inductor replacement, two-Integrator-loop	11.6-11.7	Expt 5: Various types of first-order active filters and their applications
Major Exam 2: Thu 27Nov 5:30-7:00				
12	30Nov-4Dec	Sinusoidal Oscillators: Loop gain, Stability Problem, Basic principles Op.amp-RC oscillators (Wien-Bridge, Phase shift, Quadrature)	12.1 12.2	Expt 6: Second-order active filters
13	7-11Dec	LC & Crystal Oscilators. Bistable Multivibrators	12.3 12.4	Expt 8 : Op amp Based Sinusoidal Oscillators
14	14-18Dec	Astable Multivibrators, Square and triangular wave generations, Square and triangular wave.	12.4	Expt 9: Op amp Based Signal Generators
15	21-28Dec	Introduction to Data Converters , Ideal transfer charactrastics.	Handout	LAB FINAL
16		Typical A/D and D/A Data Converter Circuits		

Grade Distribution: Two Major Exams (Major 1 + Major 2) 30%, Quizzes 10%, Attendance and Home works 5%, Design Problem (Project) 5%, Laboratory 20%, Final Exam 30%