

KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS

Electrical Engineering Department

EE303: Electronics II (TERM 042)

INSTRUCTOR	OFFICE	PHONE	OFFICE HOURS	E-MAIL
Dr. Hussain Alzaher	14-272	1434	9:20-9:50AM+12:30-1PM	alzaherh@kfupm.edu.sa

Text Book : Microelectronic Circuits (5th edition) by Sedra and Smith.

W	Date	Topics	Text	Lab./PSpice
1	Feb. 12-16	Frequency response of amplifiers: Introduction, s-Domain Analysis: Poles, Zeros, Transfer function, Bode plot.	1.6, Appendix E	NO LAB
2	Feb. 19-23	Frequency Response of MOSFET amplifier: Internal capacitances, High frequency model The three frequency bands, CS amplifier	4.8 4.9	(1) PSpice: Circuit Analysis using Spice
3	Feb. 26- Mar. 2	Frequency Response of BJT amplifier: Internal capacitances, CE amplifier. Frequency Response of other amplifiers: CB, CG and Cascode amplifiers, Emitter follower	5.8, 5.9 (Notes)	(2) PSpice: Transistor Modelling using Spice
4	Mar. 5-9	Source follower, CC-CE Cascade Amplifier, Differential Amplifier.	(Notes)	NO LAB
5	Mar. 12-16	Review of Ideal Operation Amplifiers: Inverting Amplifiers, Integrators, Differentiators, Summer, Non-inverting Configurations, and Difference Amplifier.	2.1-2.4	(3) Expt: Gain-Freq. Characteristics of Single Transistor Amplifiers
6	Mar. 19-23	Practical CMOS and BJT op-amp DC and ac analysis, Comparison, non-ideality	7.7	(4) Expt: Gain-Freq. Chrac. of Multistage Trans. Amp.
7	Mar. 26-30	Effect of nonideality on circuit performances: Open-loop Gain & bandwidth Slew Rate, Offset Voltage, Input Bias Current	2.5-2.8	NO LAB
8	Apr. 2-6	Filters: Filter Transmission, Types, Transfer function, 1 st Order and 2 nd order filter function	12.1-12.2 12.4	(5) Expt: Linear Application of operational Amplifier
9	Apr. 16-20	Biquadratic active filters: Single-amplifier filters, Inductor replacement Two-Integrator-loop	12.8 12.6 12.7	(6) Expt: Determination of Operational Amplifier Characteristics
10	Apr. 23-27	Negative Feedback: Priorities, Topologies, Study of Series-Shunt feedback Amplifier	8.1, 8.2, 8.3, 8.4	(7) Expt: Active Filters
11	Apr. 30- May 4	Study of Series-Series, Shunt-Shunt, and Shunt-Series amplifiers	8.5, 8.6,	NO LAB
12	May 7-11	Analysis and Design of amplifiers using feedback theory: Additional Examples	(Notes)	(8) Expt: Feedback and Nonlinear Distortion
13	May 14-18	Sinusoidal Oscillators: Loop gain, Stability Problem, Basic principles Op.amp-RC oscillators (Wien-Bridge, Phase shift, Quadrature)	8.7-8.8, 13.1 13.2	(9) Expt: Feedback Amplifiers
14	May 21-25	LC & Crystal Oscillators. Bistable Multivibrators	13.3, 13.4	(10) Expt: Sinusoidal Oscillators
15	May 28- Jun. 1	Astable Multivibrator Project work and Review	13.5	Lab Final

Grade Distribution:

Quizzes + Participation + Home works + Class Project	10% + 5% + 5% + 5%
2 Major Exams (Major 1 + Major 2)	15% + 15%
Laboratory	20%
Final Exam	25%

Absences: University Rule: 6 unexcused absence =Warning; 9 unexcused absences = DN

Important Dates:

Exam I: Sat. Apr. 2	Deadline for dropping courses with W: Apr. 26
Exam II: Sat. May 14	Deadline for dropping ALL courses with WP/WF: May 24