EE 40 **INTRODUCTION TO MICROELECTRONIC CIRCUITS** **FALL 2015**

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DETAILED COURSE SYLLABUS *(TENTATIVE)* **SETH SANDERS**

The following comprises a tentative syllabus describing the material to be covered in this course. Material to be covered for each dated lecture is indicated along with the corresponding sections of the required textbook, Ulaby and Maharbiz: "Circuits, 2nd Edition."

Date	Material to be Covered	HWs	Labs
Aug 27	Chapter 1: Introduction; Charge and Current		Week 1: No Labs
Sept 1	Chapter 1: Charge, Current, and Voltage		Week 2: Lab 1—Soldering
3	Chapter 2: Ohm's Law; KCL and KVL	HW 1 Due	"
8	Chapter 2: KCL and KVL; Transformations		Week 3: Lab 2—Equipmemt & Prog MSP430
10	Chapter 3:	HW 2 Due	"
15	Chapter 3: Nodal Analysis; Mesh Analysis		Week 4: Lab 3—Voltage Regulator
17	Chapter 3: Inspection Analysis; Linearity and Superposition	HW 3 Due	"
22	Chapter 3: Linearity and Superposition; Equivalence; Equivalence Examples		**Week 5: No Labs (Midterm Exam #1)**
24	**MIDTERM EXAMINATION #1**	HW 3 Due	"
29	Chapter 4: Introduction to amplifiers; operational amplifiers		Week 6: Lab 4--Resistors
Oct 1	Chapter 4: Types of amplifiers; Ideal op amp circuits	HW 4 Due	"
6	Chapter 4: Simple MOSFET; Introduction to Semiconductor Fabrication (Chap. 3)		Week 7: Lab 5—Amplifier Circuits
8	Chapter 5: Non-Periodic Waveforms; Capacitors	HW 5 Due	"
13	Chapter 5: Capacitors		Week 8: Lab 6—Capacitors
15	Chapter 5: RC Circuits; Examples	HW 6 Due	"
20	Chapter 5: Inductors; RL Circuits		Week 9: Lab 7—DC Motors & Transistors
22	Chapter 7: Phasors; AC Analysis	HW 7 Due	"
27	Chapter 7: AC Analysis; Examples		**Week 10: No Labs (Midterm Exam #2)**
29	**MIDTERM EXAMINATION #2**		"
Nov 3	Chapter 9: Frequency Response		Week 11: Lab 8—More Filters

5	Chapter 9: Bode Plots		"
10	**Chapter 9:** **Bode Plots; Examples**		**Week 12**
12	Chapter 9: Active Filters	HW 8 Due	"
17	Chapter 9: RLC Active Filter Examples		Week 13: Hack 1
19	Chapter 6: RLC Time-Domain Analysis	HW 9 Due	"
24	Chapter 6: RLC Time-Domain Examples		Week 14: Hack 2
26	**THANKSGIVING HOLIDAY – NO CLASS**		**"**
Dec 1	Overflow/Loose Ends		Week 15: Hack 3
3	Comprehensive Review	HW 10 Due	"
7	**READING/REVIEW/RECITATION**		**Week 16**
11	**"**	**Project Due**	**"**
18	**FINAL EXAMINATION 8:00 – 11:00 A.M. (Exam Group 17)**		