

# EEL-3302; ELECTRONICS I

PRELIMINARY

COURSE: EEL 3302 001, 799 Electronics I  
TERM: Fall Term, 2007  
MEETS: Lecture: Monday & Wednesday 8:00-9:15, ENB 113  
TEXT: *Microelectronic Circuits*; Sedra & Smith, Fifth Edition  
WEB PAGE: <https://my.usf.edu> or [http://www.eng.usf.edu/~gordon/courses/eel\\_3302](http://www.eng.usf.edu/~gordon/courses/eel_3302)  
INSTRUCTOR: H. C. Gordon, Jr.; Phone 813-974-3611 (Office Voice at USF), 941-922-9334 (Home Voice in Sarasota), 813-974-5250 (Office FAX at USF), 941-929-0445 (Home FAX in Sarasota), E-Mail [gordon@mail.usf.edu](mailto:gordon@mail.usf.edu)  
OFFICE HOURS: ENB-377; Monday & Wednesday 9:30-11:00, Other by appointment.  
HELP SESSIONS: Provided in response to student interest.  
OBJECTIVE: Provide an introductory experience with the analysis and design of linear active circuits. Develop circuit simulation skills. Part 1 of 2.  
ATTENDANCE: Students are expected to attend or view lectures. Examinations must be taken as scheduled. Requests for makeup examinations will be considered on individual merit.  
GRADING: There are four take-home exams (400 points) plus five CAD assignments (100 points). Final grade is based on 450 points: A = 394; B = 336; C = 281; D = 225. Others may take Final Examination to improve course grade.  
RELIGIOUS EVENTS: "Students who anticipate being absent from class due to a major religious observance must provide written notice of the date(s) and event(s) to the instructor by the second class meeting."  
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Date	Day	Lect	Lecture Topics	Chapter	Pages	Problems
8/27	M	0	Introduction & Preliminaries; Review Selected Electrical Systems I Topics			None
8/29	W	1	Signals & Signal Spectrum; Amplifiers: Models, Frequency Response	S&S 1	5-40; 49	1.23; 1.30; 1.40; 1.47
9/3	M		NO CLASS OR OFFICE HOUR — Labor Day Holiday			
9/5	W	2	Physical Operation of Diodes; Special Diode Types	S&S 3	190-211	None
9/10	M	3	Ideal Diodes; Diode Characterization: Forward & Reverse Bias	S&S 3	139-153	3.2; 3.4; 3.20
9/10	M		CAD #1 Assignment Distributed			
9/12	W	4	Diode Models; Reverse Bias Breakdown; Rectifiers; Limiters and Clamps	S&S 3	153-190	3.22; 3.37; 3.66; 3.72
9/17	M	5	MOSFET Device Structure and Physical Operation; I-V Characteristics (begin)	S&S 4	236-252	4.7all; 4.12;
9/19	W	6	MOSFET I-V Characteristics (conclude); DC Operation	S&S 4	253-270	D4.34
9/24	M	7	MOSFET As Amplifier & Switch; MOSFET Biasing	S&S 4	270-287	D4.52; D4.55; D4.60

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Date	Day	Lect	Lecture Topics	Chapter	Pages	Problems
9/26	W	8	MOSFET Small-Signal Operation and Models	S&S 4	287-299	D4.70
9/26	W		CAD #1 Assignment Due			
10/1	M	9	Single-Stage MOSFET Amplifiers: Common Source, Common Gate, Common Drain	S&S 4	299-319	4.79; D4.87
10/1	M		EXAM #1 Assignment Distributed (Open Book, Open Notes, Take-Home)	Lectures 1 thru 6		
10/3	W		Review, Questions & Answers	Lectures 1 thru 6		
10/3	W		CAD #2 Assignment Distributed			
10/8	M	10	MOSFET Internal Capacitances; High-Frequency Model; CS Frequency Response	S&S 4	320-336	D4.95; D4.103
10/8	M		EXAM #1 Assignment Due			
10/10	W	11	BJT Device Structure and Physical Operation	S&S 5	377-392	5.10; 5.19
10/15	M	12	BJT Current-Voltage characteristics	S&S 5	392-407	5.20; 5.38; 5.42
10/15	M		CAD #2 Assignment Due			
10/17	W		CLASS CANCELLED			
10/22	M	13	BJT As An Amplifier; BJT As A Switch	S&S 5	407-420	5.56; 5.61; 5.65; 5.66
10/22	M		CAD #3 Assignment Distributed			
10/24	W	14	BJT Circuits At DC; Biasing In BJT Amplifiers	S&S 5	421-442	5.79; 5.90
10/24	W		EXAM #2 Assignment Distributed (Open Book, Open Notes, Take-Home)	Lectures 7 thru 12		
10/29	M		Review, Questions & Answers	Lectures 7 thru 12		
10/31	W	15	Small-Signal Operation and Models	S&S 5	443-459	5.124a
10/31	W		CAD #3 Assignment Due			

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Date	Day	Lect	Lecture Topics	Chapter	Pages	Problems
11/3	S		WITHDRAWAL DEADLINE			
11/5	M	16	Single-Stage BJT Amplifiers	S&S 5	460-474	5.141; 5.144
11/5	M		EXAM #2 Assignment Due			
11/5	M		CAD #4 Assignment Distributed			
11/7	W	17				
11/12	M		NO CLASS OR OFFICE HOUR — Veteran's Day Holiday			
11/14	W	18				
11/19	M	19				
11/19	M		EXAM #3 Assignment Distributed (Open Book, Open Notes, Take-Home)	Lectures 13 thru 18		
11/19	M		CAD #4 Assignment Due			
11/21	W	20				
11/26	M	21				
11/26	M		CAD #5 Assignment Distributed			
11/28	W	22				
11/28	W		EXAM #3 Assignment Due			
12/3	M	23				
12/5	W	24				
12/5	W		EXAM #4 Assignment Distributed (Open Book, Open Notes, Take-Home)	Lectures 19 thru 24		
12/5	W		CAD #5 Assignment Due			

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Date	Day	Lect	Lecture Topics	Chapter	Pages	Problems
12/14	F	EXAM #4 Assignment Due				