

EE311

Electronics

Spring 2007

Location: Lectures: Thompson 21 MWF @ 1:10 p.m
Instructor:

Dr. Mohamed A Osman
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Office hours : MF : 3:00 – 4:00, M: 4:00 – 5:00 or by appointment
Web: <http://www.eecs.eecs.wsu.edu/~osman/EE311/>

Teaching Assistant:

Name: Souradip Sarkar office hours:
Office: Phone: e-mail:

Credits: 3

Pre-requisites:

By course: EE214, 261 with grade of C or better.
By topic: KCL, CVL, basic circuit analysis including DC, AC, and transient analysis.

Text Book:

1. A. Sedra and .C. Smith, “*Microelectronics*,” Oxford University Press, 5th edition, 2004

Reference books:

1. G.W. Roberts and A. Sedra, “*SPICE for Microelectronic Circuits*,” Oxford University Press, 2nd edition, 1997. ISBN 0-19-510842-6

Grading:

Homework	10%
Quizzes (7)	20%
Two midterms (45%) + final (25%)	70%

Exam. Policies:

 The following restrictions will apply to all exams.

1. Closed notes and books.
2. Two pages of notes allowed
3. No headphones, cell phones, or pagers
4. No hats
5. No guests or visitors during exams.
6. Make-up exams will be given only if *the instructor provides verbal approval before* the regular exam is administered. Leaving the instructor voice messages or sending e-mails does not constitute approval for make-up exam. It is very important that you make note of this policy.
7. Upon return of graded exams, you are given time to review the grading of the exams. Any discussion of the graded exams. will be done at a later time in my office provided you return your exam. immediately.
8. Cheating in any form will result in automatic failure of the course and further actions by the School of EECS and WSU.

Quizzes: Open notes and book lasting for 20 minutes. For the dates see outline.

Homework Policies: “No late homework accepted”

Homework assignments are designed to prepare you for the exams and applying the concepts discussed in lectures. Turn in your own work for homework assignments. Do not copy your colleague’s homework solutions. The TA will be instructed to give students zero points for any problem that has been copied (regardless of “who did the work”). This policy is not meant to discourage studying together, but to ensure that the homework score provides a measure of the effort the student expends on the homework assignment.

Reasonable accommodations are available for students who have a documented disability. Please notify instructor during the first week of class of any accommodations needed for the course. Late notifications may not guarantee the accommodations due to unavailability. All accommodations must be approved through the Disability Resource Center in Administration Annex room 205, 335-1566, e-mail: drc@mail.wsu.edu in Pullman

Week	Date	Lecture	Topics	Chapter	Quiz	Homework
1	1/8	1	Amplifiers	1.4		
	1/12	2	Amplifier models	1.5		
	1/14	3	Frequency response	1.6		
2	1/15		MLK Day: No classes			
	1/17	4	Operational Amplifiers: Ideal op. amps.	2.1, 2.2		HW#1
	1/19	5	Operational Amplifiers: applications	2.3, 2.8	(1)	
3	1/22	6	Operational Amplifiers : Frequency response	2.5		
	1/24	7	Operational Amplifiers: Frequency response	2		HW#2
	1/26	8	Operational Amplifiers: DC imperfections	2.6,2.7		
4	1/29	9	Diodes: Device Physics	3.7		
	1/31	10	Diodes: DC characteristics	3.2		HW#3
	2/2	11	Diodes : Small-signal Model	3.3	(2)	
5	2/5	12	Diodes : Applications	3.4		
	2/7	13	BJTs : Device Physics	3		HW#4
	2/9	14	BJTs : DC Characteristics	5.1		
6	2/12	15	BJTs : DC circuits	5.2		
	2/14	16	Midterm Exam. 1 (Chaps. 1 , 2 & 3)	5.4		HW#5
	2/16	17	BJTs : Amplifier biasing	5.5		
7	2/19		President's Day : No Classe			
	2/21	18	BJTs : small signal model	5.6		HW#6
	2/23	19	BJTs : Common Emitter Amplifier	5.7		
8	2/26	20	BJTs : Common Emitter Amplifier	5.7	(3)	
	2/28	21	BJTs : Common Base Amplifier	5.7		HW#7
	3/2	22	BJTs: Emitter Follower	5.7		
9	3/5	23	MOSFETs: Device Physics	4.1		
	3/7	24	MOSFETs: DC characteristics	4.2		HW#8
	3/9	25	MOSFETs: Amplifier biasing	4.5		
	3/12		Spring Break (No classes)			
	3/14					
	3/16					
10	3/19	26	MOSFETs: small signal	4.6		
	3/21	27	MOSFETs: Common Source Amplifier	4.7		HW#9
	3/23	28	MOSFETs: Common Gate Amplifier	4.7		
11	3/26	29	MOSFETs: Source Follower	4.7	(4)	
	3/28	30	High Frequency Model of MOSFET	4.8		HW#10
	3/30	31	Midterm Exam. 2 (Chaps. 4 & 5)			
12	4/2	32	High Frequency Model of BJT	5.8		
	4/4	33	Frequency Response: CE amplifiers	4.9,6.6		HW#11
	4/6	34	Frequency Response: CE amplifiers	4.9,6.6	(5)	
13	4/9	35	Frequency Response: CB amplifiers	6.7		
	4/11	36	Current sources	6.3		HW#12
	4/13	37	Current mirrors	6.3		
14	4/16	38	Active loads	6.5	(6)	
	4/18	39	BJT Differential pair	7.3		HW#13
	4/20	40	BJT Differential pair Amplifiers	7		
15	4/23	41	BJT Differential pair Amplifiers	7		
	4/25	42	BJT Differential pair Amplifiers	7	(7)	HW#14
	4/27	43	Review			
16	5/1		Final Exam: Tuesday: 3:10 –5:10 p.m.			

Final Exam. Schedule:

FINAL EXAMINATION SCHEDULE FOR SPRING SEMESTER 2007

7:00 am to 10:00 am, 3:10 pm to 6:10 pm, and 7:00 pm to 10:00 pm schedules apply only to four- and five-hour lecture courses. All other lecture courses are scheduled for a two-hour exam period. Unless announced by the instructor, the examination will be held in the classroom where the class meets for instruction.

Final examinations for lecture/lab courses are scheduled ONLY during the lecture portion of the class.

Final examinations for all lecture sections of a course approved for a mass examination must be given during the assigned time block.

Final examinations for courses taught via WHETS may vary from this schedule. Call 335-4535 for details.

NO EARLY EXAMINATIONS. Final Examinations will not be rescheduled for the purpose of leaving the institution before the close of the semester (per academic rule 80).

Time	Days	Mon, Apr. 30	Tues, May 1	Wed, May 2	Thurs, May 3	Fri, May 4
7:00 – 10:00 am or 8:00 – 10:00 am		Chem 101, 102, 105, 106 2 Tu, Th	10 Daily 10 M, W, F Chem 345	4 Daily 4 M, W, F 3:50–5 M, W 4:15–5:30 M, W	9 Daily 9 M, W, F 9:10–10:25 M, W	2 Daily 2 M, W, F
10:10 – 1:00 pm or 10:10 – 12:10 pm		7:45–9 Tu, Th 8 Tu, Th	Math 172, 202	10 Tu, Th 11 Tu, Th 10:35–11:50 Tu, Th	2:50–4:05 Tu, Th 3 Tu, Th	9:10–10:25 Tu, Th 9 Tu, Th
1:00 – 3:00 pm		12 Daily 12 M, W, F 12:00–1:15 M, W	B Law 210 Mktg 360	1:25–2:40 Tu, Th 1 Tu, Th	Math 201, 220	Acctg 230, 231 Fin 425 Evening lecture M, W, F*
3:10 – 5:10 pm or 3:10 – 6:10 pm		11 Daily 11 M, W, F 10:35–11:50 M, W	1 Daily 1 M, W, F 1:25–2:40 M, W	3 Daily 3 M, W, F 2:50–4:05 M, W	4:15–5:30 Tu, Th 4 Tu, Th	Math 107, 171
7:00 – 9:00 pm or 7:00 – 10:00 pm		12:00–1:15 Tu, Th 12 Tu, Th	Biol 101, 102, 106, 107	Cpt S 121 Evening lecture Tu, Th*	8 Daily 8 M, W, F 7:45–9 M, W	Span 101, 102, 203, 204