Department of Electrical and Electronic Engineering, California State University, Sacramento

EEE 117L Network Analysis Laboratory*, 1 unit*
Fall 2011, Section 1, Call No. 82664, Mon 3:00 – 5:40 P.M., Riverside Hall, Room 3017
Fall 2011, Section 2, Call No. 82651, Mon 7:45 – 10:20 A.M., Riverside Hall, Room 3017
Fall 2011, Section 3, Call No. 85984, Tue 3:00 – 5:40 P.M., Riverside Hall, Room 3017

Course Content: The laboratory will reinforce the concepts learned in both Engr 17 and EEE 117 lecture. The students will be introduced to the latest electronic instrumentation including the operation of test and measurement equipment and briefly experimental results using Labview. Circuit simulation is widely used with extensive use of PSpice derived software to verify experimental results.
Corequisite: EEE 117

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Textbook: ***Electric Circuits***, Nilsson and Riedel, 8th Edition, 2008, Prentice Hall,
ISBN: 0-13-198925-1

Lab Manual: See my website under EEE 117 Lab for lab procedures and handouts.
Lab material is also available at: \\voyager\lab\EEE\EEE_117

Required Equipment: Buy your own personal protoboard prior to the 2nd week of lab.

Instructor: Russ Tatro Office: Riverside 5030
email: rtatro@csus.edu Website: www.csus.edu/indiv/t/tatror
Office Phone: 278-4878
Office Hours: See my website for current office hours.

Grading: The pre-lab assignments, laboratory reports and attendance are the basis for the grade in this lab. See the course syllabus for assignment due dates.

Lab		Pre-Lab	Report	Combined
1	Circuit Simulation	5		5
2	Test Equipment Operation	10		10
3	Op Amp	10	5	15
4	Low Pass Filter #1	10	5	15
5	Rise/Fall Times	5	10	15
6	Times Ten Attenuator	10	10	20
7	Low Pass Filter #2	10	10	20
	Total points	60	40	100

Attendance: On-time lab attendance is mandatory. Unexcused tardiness or absence will result in score reductions for the lab reports. Attendance will be noted for every lab session.

Late: 15 minutes = - 5 points
30 minutes or more but still attended the lab = -20 points

Unexcused absence: One week long lab = -90% for each occurrence
Two week long lab = -45% for each occurrence

Grading Policy: Grades may be curved at the instructor's discretion. The class average will be in the C+ range. Typical grades ranges are:

A - 90 and above C - 70 - 79 F – Below 60
B - 80 – 89 D - 60 - 69

Late pre-lab and report deductions - when **advance** permission not granted.

1 day	-25%	Submit day after report due by close of EEE office.
3 days	-50%	Submit 3 days after report due by close of EEE office.
≥ 7 days	-80%	Grossly late reports accepted until December 12, 2011 by close of EEE office.

Plagiarism Policy: All reports for this laboratory are prepared individually. It is expected and encouraged that students help each other with the concepts and the data gathering/analyzing stages of the lab. However, the report is an individual effort. The standards of the university on plagiarism are published and will be enforced. See CSUS policy: http://www.csus.edu/umanual/student/UMA00150.htm On the first occurrence of potential plagiarism, the reports involved will receive minus the value of the lab report points. I have no way of knowing which report was the "master" and which was the "copy". Both reports will receive the minus score. On a second occurrence, the reports will be submitted to Academic Affairs for disciplinary action.

Room 3017 – Notes on equipment and policies

1. No food or drink in the lab. The equipment is way too expensive to risk damage by lunch.
2. Please clean your station before departing the lab. Replace all cables, parts and portable equipment to the proper places.
3. The test and measurement equipment in the lab was partly donated by Agilent and Tektronix. The user guides and manuals are posted on my website.
4. Each individual should buy a good quality proto-board. Each lab team MUST have a proto-board.
5. Test devices and parts will be supplied to the lab team. Please return useable parts to the proper bins and destroy damaged/unusable parts.

General Notes

1. The pre-lab assignment might not be returned to you prior to the associated laboratory report due date. You must keep a copy of the pre-lab for your lab report writing needs. Pre-lab assignments should have a cover page, be neat and well organized. Hand written equations and derivations are acceptable for the pre-lab only.
2. The lab report should be a professionally written document. All equations in the lab report must be neatly typed using an equation editor such as MathType, the Microsoft Equation Editor or other appropriate software. Non-mathematically formatted equations submitted on lab reports will receive a point deduction. For example: $v_0(t) = v_i(t)\frac{R_2}{R_1 + R_2}$ and not v0(t)=vi(t)R2/(R1+R2).
3. There are many deadlines in the lab schedule. Pay attention to the schedule and meet the deadlines!
4. Please report any broken test equipment, scope probe or test lead immediately to the instructor. We have spares on hand and will fix the problem as quickly as possible.
5. Please report any difficulties you encounter with the lab computers or software. While it is usually "operator error", you may have found a unique error that needs fixing.

EEE 117L - Section 1 – Monday P.M. – Tatro – Fall 2011

Week	DATE:	Lab	TOPICS:
1	08-29	Lab 1	Multisim/PSpice Introduction
2	09-05	No Lab	Labor Day Holiday – campus closed
3	09-12	Lab 1 continued	Multisim/PSpice Introduction Pre-Lab 1 – Week 2 - assignment due at the start of the lab period.
4	09-19	Lab 2	Test Equipment Operation - DC Measurements Pre-Lab 2 – Week 1 – assignment due at the start of the lab period.
5	09-26	Lab 2 continued	Test Equipment Operation - AC Measurements Pre-Lab 2 – Week 2 – assignment due at the start of the lab period.
6	10-03	Lab 3	Operational Amplifiers Pre-Lab 3 – Week 1 – assignment due at the start of the lab period.
7	10-10	Lab 3 continued	Operational Amplifiers Pre-Lab 3 – Week 2 – assignment due at the start of the lab period.
8	10-17	Lab 4	Low Pass Filter Pre-Lab 4 – Week 1 - assignment due at the start of the lab period. Lab 3 report - due at the start of the lab period.
9	10-24	Lab 4 continued	Low Pass Filter Pre-Lab 4 – Week 2 - assignment due at the start of the lab period.
10	10-31	Lab 5	Rise/Fall Times for First Order Circuits Pre-Lab 5 - assignment due at the start of the lab period. Lab 4 report - due at the start of the lab period.
11	11-07	Lab 6	Times Ten Attenuator - Part 1 Laplace Transform Pre-Lab 6 – Week 1 - assignment due at the start of the lab period. Lab 5 - report due at the start of the lab period.
12	11-14	Lab 6 continued	Times Ten Attenuator - Part 2 Frequency Domain Pre-Lab 6 – Week 2 - assignment due at the start of the lab period.
13	11-21	Lab 7	Low Pass filter Pre-Lab 7 – Week 1 - assignment due at the start of the lab period. Lab 6 report - due at the start of the lab period.
14	11-28	Lab 7 continued	Low Pass filter Pre-Lab 7 – Week 2 - assignment due at the start of the lab period.
15	12-05		No Lab Lab 7 report – due Mon 12/05/10 by close of EEE Department office – time stamp and turn report into the EEE Office.
16	12-12		**Final Week** – No lab meeting

EEE 117L - Section 2 – Monday A.M. – Kumar - Fall 2011

Week	DATE:	Lab	TOPICS:
1	08-29	Lab 1	Multisim/PSpice Introduction
2	09-05	No Lab	Labor Day Holiday – campus closed
3	09-12	Lab 1 continued	Multisim/PSpice Introduction Pre-Lab 1 – Week 2 - assignment due at the start of the lab period.
4	09-19	Lab 2	Test Equipment Operation - DC Measurements Pre-Lab 2 – Week 1 – assignment due at the start of the lab period.
5	09-26	Lab 2 continued	Test Equipment Operation - AC Measurements Pre-Lab 2 – Week 2 – assignment due at the start of the lab period.
6	10-03	Lab 3	Operational Amplifiers Pre-Lab 3 – Week 1 – assignment due at the start of the lab period.
7	10-10	Lab 3 continued	Operational Amplifiers Pre-Lab 3 – Week 2 – assignment due at the start of the lab period.
8	10-17	Lab 4	Low Pass Filter Pre-Lab 4 – Week 1 - assignment due at the start of the lab period. Lab 3 report - due at the start of the lab period.
9	10-24	Lab 4 continued	Low Pass Filter Pre-Lab 4 – Week 2 - assignment due at the start of the lab period.
10	10-31	Lab 5	Rise/Fall Times for First Order Circuits Pre-Lab 5 - assignment due at the start of the lab period. Lab 4 report - due at the start of the lab period.
11	11-07	Lab 6	Times Ten Attenuator - Part 1 Laplace Transform Pre-Lab 6 – Week 1 - assignment due at the start of the lab period. Lab 5 - report due at the start of the lab period.
12	11-14	Lab 6 continued	Times Ten Attenuator - Part 2 Frequency Domain Pre-Lab 6 – Week 2 - assignment due at the start of the lab period.
13	11-21	Lab 7	Low Pass filter Pre-Lab 7 – Week 1 - assignment due at the start of the lab period. Lab 6 report - due at the start of the lab period.
14	11-28	Lab 7 continued	Low Pass filter Pre-Lab 7 – Week 2 - assignment due at the start of the lab period.
15	12-05		No Lab Lab 7 report – due Mon 12/05/10 by close of EEE Department office – time stamp and turn report into the EEE Office.
16	12-12		**Final Week** – No lab meeting

EEE 117L - Section 3 – Tuesday P.M. – Tatro – Fall 2011

Week	DATE:	Lab	TOPICS:
1	08-30	Lab 1	Multisim/PSpice Introduction
2	09-06	No Lab	Labor Day Holiday lab section alignment
3	09-13	Lab 1 continued	Multisim/PSpice Introduction Pre-Lab 1 – Week 2 - assignment due at the start of the lab period.
4	09-20	Lab 2	Test Equipment Operation - DC Measurements Pre-Lab 2 – Week 1 – assignment due at the start of the lab period.
5	09-27	Lab 2 continued	Test Equipment Operation - AC Measurements Pre-Lab 2 – Week 2 – assignment due at the start of the lab period.
6	10-04	Lab 3	Operational Amplifiers Pre-Lab 3 – Week 1 – assignment due at the start of the lab period.
7	10-11	Lab 3 continued	Operational Amplifiers Pre-Lab 3 – Week 2 – assignment due at the start of the lab period.
8	10-18	Lab 4	Low Pass Filter Pre-Lab 4 – Week 1 - assignment due at the start of the lab period. Lab 3 report - due at the start of the lab period.
9	10-25	Lab 4 continued	Low Pass Filter Pre-Lab 4 – Week 2 - assignment due at the start of the lab period.
10	11-01	Lab 5	Rise/Fall Times for First Order Circuits Pre-Lab 5 - assignment due at the start of the lab period. Lab 4 report - due at the start of the lab period.
11	11-08	Lab 6	Times Ten Attenuator - Part 1 Laplace Transform Pre-Lab 6 – Week 1 - assignment due at the start of the lab period. Lab 5 - report due at the start of the lab period.
12	11-15	Lab 6 continued	Times Ten Attenuator - Part 2 Frequency Domain Pre-Lab 6 – Week 2 - assignment due at the start of the lab period.
13	11-22	Lab 7	Low Pass filter Pre-Lab 7 – Week 1 - assignment due at the start of the lab period. Lab 6 report - due at the start of the lab period.
14	11-29	Lab 7 continued	Low Pass filter Pre-Lab 7 – Week 2 - assignment due at the start of the lab period.
15	12-06		No Lab Lab 7 report – due Mon 12/06/10 by close of EEE Department office – time stamp and turn report into the EEE Office.
16	12-13		**Final Week** – No lab meeting