

Memorial University of Newfoundland
Faculty of Engineering and Applied Science

Fall 2010

Eng. 3821 Circuit Analysis

Instructor: B.Jeyasurya (EN-3045); Email: jeyas@mun.ca

Course Text: 1. Electric Circuits , J.W.Nilsson, S.A.Riedel, 8th edition, Pearson Prentice Hall, 2008.

Note: A supplement 'Introduction to PSpice manual Using OrCAD Release 10.5' accompanies the above text.

2. Laboratory Manual for Engineering 3821, B.Jeyasurya. (MUN Bookstore)

Review: Please study and understand basic electric circuit concepts.

(for example: ENGI 1040 Notes; Chapters 1 to 3 of Text; Calculus and Algebra as in Mathematics 1001, Mathematics 2050)

Labs: See attached information

Scheme of Evaluation:

Labs.	15% (1 report for each experiment)
Assignments	10% (4 Assignments)
Tests (2)	25%
Final	50%

Test 1: Monday October 18, 2010, 3:00 p.m.

Test 2: Wednesday November 17, 2010, 3:00 p.m.

Tutorial session: Examples will be done only in Tutorial sessions. Your participation is very important.

Course Material: online.mun.ca

Calculator Policy: Programmable Calculators are not allowed.

Office Hours:

Mondays: 12:00 – 1:00 p.m. Tuesdays: 3:30 – 4:30 p.m.

COURSE OUTLINE

No.	Topic	Chapters from Text
1	Basic Circuit Concepts	1-3
2	Techniques of Circuit Analysis	4
3	Inductance, Capacitance and first-order circuits	6-7; omit 6.4,6.5,7.6,7.7
4	Response of RLC Circuits	8 omit 8.5
5	Sinusoidal Steady State: Analysis	9 omit 9.10,9.11
6	Frequency Selective Circuits	14
7	Laplace Transform in Circuit Analysis	12.1,12.2,12.4-12.7 13.1-13.4
8	Sinusoidal Steady State: Power Calculations	10

Laboratory Information

- Attendance is mandatory for successful completion of the course work.
- Prelab must be completed prior to the laboratory session.
- Laboratory report is required for each experiment. Report is due at the end of the Lab. Session for that experiment.. Submit one report per group.
- Lab. Schedule is posted in EN1040

Instructions for Laboratory Report

- Each student should have a Hard Cover laboratory book (available in Book store).
- Laboratory report (1 per group; 2 students per group) is due at the end of each experiment.
- Use one book for Experiments 1, 3, 5 and 7.
- Use the other book for Experiments 2, 4 and 6.
- Corrected reports will be returned to you on time.

ENGI 3821 Circuit Analysis Lab. Schedules Fall 2010

Expt.	Title of Experiment	Chapters from Text
1	Matlab: Introduction and application for Circuit Analysis	1-3
2	PSpice for Circuit Analysis (2 sessions)	1-4
3	Study of techniques for circuit analysis using resistive circuits(2 sessions)	1-4
4	Oscilloscope and Function Generator	
5	Response of RL, RC and RLC Circuits	6-8
6	Sinusoidal Steady-State Response	9
7	Frequency Response & Resonance	14

Tuesdays Group A	Thursdays Group B
September 14 Expt. 1 EN3065 9:00 a.m.	September 16 Expt. 1 EN3065 9:00 a.m.
September 21 Expt. 2 Session 1 EN3065 9:00 a.m.	September 23 Expt. 2 Session 1 EN3065 9:00 a.m.
September 28 Expt. 2 Session 2 EN3076 9:00 a.m.	September 30 Expt. 2 Session 2 EN 3076 9:00 a.m.
October 5 Expt. 3 Session 1 EN1038 9:00 a.m	October 6 Expt. 3 Session 1 EN1038 9:00 a.m.
October 15 (Friday; Tuesday schedule) Expt. 3 Session 2 EN1038 9:00 a.m	October 14 Expt. 3 Session 2 EN1038 9:00 a.m

October 19 Expt. 4 EN1038 9:00 a.m	October 21 Expt. 4 EN1038 9:00 a.m
October 26 Expt. 5 EN1038 9:00 a.m	October 28 Expt. 5 EN1038 9:00 a.m
November 16 Expt. 6 EN1038 9:00 a.m	November 18 Expt. 6 EN1038 9:00 a.m
November 23 Expt. 7 EN1038 9:00 a.m	November 25 Expt. 7 EN1038 9:00 a.m

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