

RYERSON UNIVERSITY
DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING
ELE202:ELECTRIC CIRCUITS

COURSE OUTLINE
January, 2006

Course Description: This is a one semester introductory course to electrical circuit analysis. The topics include the following: circuit variables and elements, resistive circuits, methods of circuit analysis, circuit theorems, energy storage elements, transient responses of RL and RC circuits, sinusoidal steady-state analysis, and AC steady-state power concepts.

Prerequisite: MTH140 (Calculus-I) and MTH141 (Linear Algebra)

Course hours: Lecture: 5 hours/ week; Lab 3 hours, Tutorial 1 hour alternate week

<u>Course Evaluation:</u>	<u>Theory</u>	<u>75%</u>	<u>Laboratory</u>	<u>25%</u>
	Mid-term test	25	Lab Reports	10
	Final Exam	50	Lab Project	10
			Quizzes	5

- All quizzes, mid-term test and final examination will be closed book. Only the non-programmable approved calculator (**Sharp EL546 or later model**) will be allowed.
- **Students must achieve passing marks in both theory and lab components separately in order to receive a passing grade in this course.**
- All lab reports will be assessed not only on their technical merits, but also on the communication skills of the students.

Text: Electric Circuits by J.W.Nilsson and S.A.Riedel, 7th edition, published by Prentice Hall, 2005, ISBN:0-13-146592-9

Lab manual: Laboratory Manual for Electric Circuits – ELE202 by M.T.Ghorab & B.S.Prabhu, published by Ryerson Bookstore,2001.

Website: Blackboard <https://www.my.ryerson.ca>

Course Coordinator:Dr.S.Karim, Office ENG334, Tel:416 979 5000 ext. 6111,email: skarim@ee.ryerson.ca.

Lecture and Lab schedules, Winter 2006

Week	Lecture Topic	Experiment/Tutorial
Week-1	Circuit Variables Chap-1,sections:1.1 to 1.6	No Lab or Tutorial
Week-2	Circuit Elements Chap-2,sections:2.1 to 2.5	Expt-1: Simple DC circuit
Week-3	Simple Resistive Circuits Chap-3,sections:3.1 to 3.4	Tutorial/Quiz Chap 1 & 2
Week-4	Simple Resistive Circuits Chap-3(continued), sections:3.5 to 3.7	Expt-2 General DC circuit
Week-5	Techniques of Circuit Analysis Chap-4, sections:4.1 to 4.7	Tutorial/Quiz Chap-3
Week-6	Techniques of Circuit Analysis Chap-4 (continued), section:4.8 to 4.13	Expt-4 Introduction to Scopes
Week-7	Inductance, and Capacitance Chap-6,sections:6.1 to 6.3	Tutorial/Quiz Chap-4
Week-8	Response to 1 st Order RL and RC Circuits Chap-7,section: 7.1	Expt-3 Thevenin's circuit & Max. power transfer
Week-9	Response to 1 st Order RL & RC Circuits Chap-7 (continued), sections: 7.2 to 7.5 <u>Mid-term test</u>	Expt-5 Pulse response of RC & RL circuits
Week-10	Sinusoidal Steady-State Analysis Chap-9,sections: 9.1 to 9.7	Tutorial/Quiz Chap-7
Week-11	Sinusoidal Steady -State Analysis Chap-9 (continued),sections:9.8,9.9 & 9.12	Expt-6 Sinusoidal-Steady-State Response of RC & RL Circuits
Week-12	Sinusoidal Steady-State Power Calculations Chap-10, sections: 10.1 to 10.6	Tutorial/Quiz Chap-9
Week-13	Review	Project (mystery box)