

EE2CJ4–Circuits and Systems
Course Outline: 2011–12

Instructor: Dr. Jun Chen. Rm ITB–A221, ex 20163, junchen@ece.mcmaster.ca

Schedule: Lectures	Monday and Wednesday	11:30am-12:20pm	MDCL/1105
	Friday	13:30pm-14:20pm	MDCL/1105
Lab	Tuesday	13:30pm-14:20pm	JHE/264
Tutorial01	Friday	11:30am-12:20pm	T13/125
Tutorial02	Friday	12:30pm-13:20pm	T13/127

Course Objectives: At the end of this course, students will be able to solve electric circuits involving both passive and active elements for voltages at nodes, and branch or loop currents. They will be able to solve linear transient circuit problems involving second-order systems using either time-domain or Laplace transform techniques, and will be able to analyze and sketch the frequency response of a circuit. In addition, students will have developed efficient tools for analyzing two-port networks and three-phase circuits, and will have been introduced to magnetic circuits.

Outline of Topics:

Operational amplifiers (Chapter 4)
Frequency response (Chapter 12)
Laplace transform analysis of linear circuits (Chapters 13 and 14)
Two-port networks (Chapter 16)
Magnetically coupled networks (Chapter 10)
Three phase circuits (Chapter 11)

Assessment:

Tutorial participation: 5%
Four quizzes: 20%
Mid-term test: 25%
Final examination: 50%

Calculator requirement for tests and examinations: The McMaster Standard Calculator (Casio fx991)

Textbook: Irwin and Nelms, *Basic Engineering Circuit Analysis*, ninth edition, Wiley, 2008

Policy Reminders:

Senate and the Faculty of Engineering require all course outlines to include the following reminders:

“The Faculty of Engineering is concerned with ensuring an environment that is free of all adverse discrimination. If there is a problem, that cannot be resolved by discussion among the persons concerned, individuals are reminded that they should contact the Department Chair, the Sexual Harassment Officer or the Human Rights Consultant, as soon as possible.”

“Students are reminded that they should read and comply with the Statement on Academic Ethics and the Senate Resolutions on Academic Dishonesty as found in the Senate Policy Statements distributed at registration and available in the Senate Office.”

“The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all course in extreme circumstances. If either type of modification becomes necessary, reasonable notice and

communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.”

“Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university. It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty please refer to the Academic Integrity Policy, specifically Appendix 3, located at http://www.mcmaster.ca/senate/academic/ac_integrity.htm

The following illustrates only three forms of academic dishonesty:

- 1 **Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.** (*Insert specific course information, e.g. style guide*)
- 2 **Improper collaboration in group work.** (*Insert specific course information*)
- 3 **Copying or using unauthorized aids in tests and examinations.**

(If applicable) In this course we will be using a software package designed to reveal plagiarism. Students will be required to submit their work electronically and in hard copy so that it can be checked for academic dishonesty.”

Note on Calculators: If the use of a calculator is to be allowed on tests and examinations, the new Senate Policy on Calculators requires an instructor to specify on the course outline which of the following options apply to your course:

- a. The McMaster Standard Calculator (Casio fx991) may be used on tests and examinations, or
- b. Any calculator can be used on tests and examinations.

The second option is to be chosen only when the instructor is sure that no student will have an unfair advantage over other students due to the possession of a particular calculator.