University of Victoria
Electrical & Computer Engineering

Faculty of Engineering

COURSE OUTLINE

ELEC 250 – LINEAR CIRCUITS I

Term – SUMMER 2015 (201505)

Instructor

Dr. Hannan Lohrasbipeydeh
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Office Hours

Days: Wednesday
Time: 3 pm – 5 pm.
Location: EOW 403

Course Objectives

To introduce the mathematical techniques and application skills needed to analyze, design, and make laboratory measurements on linear electric circuits.

Learning Outcomes

Use Ohm's law and Kirchhoff laws to analyze resistive circuits
Use network theorems (including mesh currents and node voltages) to analyze resistive circuits
Solve 1st and 2nd order RC and RL circuits
Use phasors to perform AC analysis
Assess series and parallel resonance and calculate AC power

Syllabus

Circuit analysis and design techniques. Resistors, sources, Kirchhoff's voltage and current laws. Theorems: linearity, superposition, Thevenin, Norton. Node and loop analysis. Capacitors and inductors, series and parallel connections, stored energies. Analysis of first- and second-order circuits. Forced and natural responses. Phasors, impedance and admittance. Network theorems using phasors. Series and parallel resonance. RMS quantities, complex power. Maximum power transfer. Three-phase circuits, Y- and Delta-loads.
These topics are covered in Chapters 1,2,3,4,6,7,8,9,10 and 11 in your book.

Lectures

A-Section(s): A01 (30289) & A02 (30290) Days: Monday, Thursday Time: 09:00 a.m. - 09:50 a.m. Location: Engineering Computer Science (ECS) – 123	**A**-Section(s): A01 (30289) & A02 (30290) Days: Friday Time: 13:30 p.m. - 14:20 p.m. Location: Engineering Computer Science (ECS) – 123

Labs **Location: ELW**

B-Section(s):	Days:	Time(s):
B01&B02	Tuesday	04:00 - 06:50 pm
B03& B04	Wednesday	12:30 - 03:20 pm
B05& B06	Thursday	04:30 - 07:20 pm
B07& B08	Friday	02:30 - 05:20 pm

Tutorial

T-Section(s): T01 / CRN 30299
Days: Th. Tutorials start the first week of classes (i.e. Friday May 08, 2015)
Time: 10:30 a.m. – 11:20 a.m.
Location: ECS 123

Required Text

Title: Electric Circuits
Author: James W. Nilsson, Susan A. Riedel
Publisher: Prentice-Hall (Pearson Education)
Year: 2015 (10th Edition)

Optional Text

Title: Fundamentals of Electric Circuits
Author: C. K. Alexander and M. N. O. Sadiku
Publisher: McGraw-Hill.
Year: 2009 (4th Edition)

References: Lecture notes and article reprints available on website:

https://www.ece.uvic.ca/wiki/~elec250/doku.php?id=start

Assessment:

Assignments:	-----	TBD
Labs	10%	
Test I	10%	Date: TBD
Test II	15%	Date: TBD
Test III	15%	Date: TBD
Test IV	15%	Date: TBD
Test V	15%	Date: TBD
Test VI	20%	Date: TBD
Final	------	

Dates for Tests:
The date of the tests will be determined in the class.

Note: Failure to complete all laboratory requirements will result in a grade of N being awarded for the course.

Failure to pass the final exam will result in a failing grade for the course.

The final grade obtained from the above marking scheme for the purpose of GPA calculation will be based on the percentage-to-grade point conversion table as listed in the current Undergraduate Calendar.

There will be no supplemental examination for this course. The rules for supplemental examinations can be found in the current Undergraduate Calendar.

http://web.uvic.ca/calendar/FACS/UnIn/UARe/Grad.html

Note to Students:

Students who have issues with the conduct of the course should discuss them with the instructor first. If these discussions do not resolve the issue, then students should feel free to contact the Chair of the Department by email or the Chair's Secretary to set up an appointment.

Accommodation of Religious Observance
http://web.uvic.ca/calendar/GI/GUPo.html

Policy on Inclusivity and Diversity
http://web.uvic.ca/calendar/GI/GUPo.html

Standards of Professional Behaviour

You are advised to read the Faculty of Engineering document Standards for Professional Behaviour in current Undergraduate Calendar, which contains important information regarding conduct in courses, labs, and in the general use of facilities.

Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult entry in current Undergraduate Calendar for the UVic policy on academic integrity.

http://www.uvic.ca/engineering/assets/docs/professional-behaviour.pdf

Course Lecture Notes

Unless otherwise noted, all course materials supplied to students in this course have been prepared by the instructor and are intended for use in this course only. These materials are NOT to be re-circulated digitally, whether by email or by uploading or copying to websites, or to others not enrolled in this course. Violation of this policy may in some cases constitute a breach of academic integrity as defined in the UVic Calendar.