Faculty of Engineering

COURSE OUTLINE

ELEC 482 – Electrical Drive Systems

Term – Spring 2016 (201601)

Instructor
Dr. Sina Chiniforoosh
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Office Hours
Days: Jan 9,16,23, Feb 20,27, April 2, or by appointment
Time: 5:00-6:00 PM, or by appointment
Location: CLE A127, or via skype

Course Objectives
The course objective is to provide an overview of the principles of motor control and the application of power electronic converters in dc and ac motor drives.

Learning Outcomes
By the end of the course, the students can explain the principles of motor control, identify the elements of drive systems, analyze dc and ac motor drives, and select an appropriate drive for a particular application.

Syllabus

A-Section(s):
A01 / CRN 21169, A02 / CRN 21170

Days: Saturdays (Jan 9, 16, 23, Feb 20, 27, Apr 2)
Time: 2-4:50 PM
Location: CLE A127

Wednesdays (Jan 27, Feb 3, Mar 2, 9, 16, 23)
Time: 7-9:50 PM
Location: CLE A127

Optional Text
Title: Power Electronics and Motor Control, 2nd Ed.
Author: W. Shepherd, L. N. Hulley, and D. T. W. Liang
Publisher: Cambridge University Press
Year: 1995

References:
Title: Electric Motor Drives: Modeling, Analysis, and Control
Author: R. Krishnan
Publisher: Prentice Hall
Year: 2001

Title: Analysis of Electric Machinery and Drive Systems, 3rd Ed.
Author: P. C. Krause, O. Wasynczuk, S. D. Sudhoff, and S. Pekarek
Publisher: Wiley- IEEE Press
Year: 2013
Assessment:

Computer Assignment: 10%  
Due: March 31, 2016
Mid-term 40%  
Date: Feb 27, 2016
Final Exam 50%

**Note:** Several paper assignments will be posted to help with the students’ preparation for the exams, but these assignments will not be marked. One computer assignment will also be posted that must be submitted electronically by the due date of March 31, 2016, and will account for 10% of the final mark. The students are allowed to discuss together regarding the computer assignment, but each student is required to submit his/her own simulation files as well as the report that must clearly show the student’s individual work.

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.

**Assignment of E grade and supplemental examination for this course will be at the discretion of the Course Instructor. The rules for supplemental examinations can be found in the current Undergraduate Calendar.**

[http://web.uvic.ca/calendar/FACS/UnIn/UARE/Grad.html](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](http://web.uvic.ca/calendar/GI/GUPo.html)

**Policy on Inclusivity and Diversity**

[http://web.uvic.ca/calendar/GI/GUPo.html](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, which contains important information regarding conduct in courses, labs, and in the general use of facilities.

[https://www.uvic.ca/engineering/assets/docs/professional-behaviour.pdf](https://www.uvic.ca/engineering/assets/docs/professional-behaviour.pdf)

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

[http://web.uvic.ca/calendar/FACS/UnIn/UARE/PoAcI.html](http://web.uvic.ca/calendar/FACS/UnIn/UARE/PoAcI.html)

**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.