



COURSE OUTLINE

ELEC 360 – Control Theory and System I **Spring 2014**

Instructor:

Dr. Hong-Chuan Yang
Phone: (250) 721-8672
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Office Hours:

Days: Tuesday
Time: 1:30 – 2:30pm or by appointment
Location: EOW 421

Lectures:

A-Section(s): A01/02 CRN 21098/21099
Days: Tuesday, Wednesday, and Friday
Time: 9:30 ~ 10:30 am
Location: ECS 124

Labs:**Location: ELW**

B-Section(s)	Days	Time
B01	1/29, 2/19, 3/5, 3/19	3:30-6:20pm
B02	2/5, 2/26, 3/5, 3/26	3:30-6:20pm
B04	2/7, 2/28, 3/14, 3/28	2:30-5:20pm

Required Text:

Title: Modern Control Engineering, 5th Ed
Author: K. Ogata
Publisher: Prentice Hall
Year: 2010

Optional Text:

Title: ELEC 360 Lab Manual
Author: Dr. P. Agathoklis
Publisher: UVic Bookstore
Year: 2012

References:

R. C. Dorf and R. H. Bishop, Modern Control Systems, 11th Ed, Prentice Hall, 2008

Assessment:

Assignments:	10%
Labs	15%
Mid-term	20%
Final	55%

Date: Feb. 21, 9:30~10:20am

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

Due dates for assignments:**Course Objective:**

To introduce various fundamental concepts of feedback control systems, including mathematical modeling of dynamic systems; characteristics of feedback control; time and frequency domain analysis; Routh-Hurwitz and Nyquist stability criteria; basic feedback control system design; and introduction to state-space methods.

Prerequisites:

ELEC 255 or ELEC 260.

Course Homepage:

<http://moodle.uvic.ca/>: Log in with your University of Victoria Netlink ID and Password.

The final grade obtained from the above marking scheme will be based on the following percentage-to-grade point conversion:

Passing Grades	Grade Point Value	Percentage for Instructor Use Only	
A+	9	90 - 100	
A	8	85 - 89	
A-	7	80 - 84	
B+	6	77 - 79	
B	5	73 - 76	
B-	4	70 - 72	
C+	3	65 - 69	
C	2	60 - 64	
D	1	50 - 59	
Failing Grades	Grade Point Value	Percentage for Instructor Use Only	Description
E	0	35 - 49	Fail, conditional supplemental exam. (For undergraduate courses only)
F	0	0 - 49	Fail, no supplemental.
N	0	0 - 49	Did not write examination, Lab or otherwise complete course requirements by the end of term or session; no supplemental exam.

The rules for supplemental examinations are found on page 80 of the current 2013/14 Undergraduate Calendar.

Term in which E Grade Was Obtained	Application Deadline for Supplemental Exam	Supplemental Exam Date
First term of Winter Session (Sept - Dec)	February 28 in the following term	First week of following May
Second term of Winter Session (Jan - Apr)	June 30 in the following term	First week of following September
Summer Session (May - Aug)	October 31 in the following term	First week of following January

Deferred exams will normally be written at the start of the student's next academic term; i.e., approximately 4 months following the deferral of the exam.

Assignments:

There will be eight to nine problem sets. The assignments will be due in the drop box in EOW on the due dates. The solutions will be posted on the next day. As such, late assignment will not be accepted. The assignment with the lowest grade will not be counted.

Labs:

Lab session start in the week of January 27. There will be four labs. Three of them are on D.C. Motor Control and one of them on Robot Arm. Because there are only two robot units available, different groups will work on different labs during the same lab sessions. Refer to course homepage for detailed lab arrangement and guidelines for lab reports.

Exams:

There will be one midterm exam and one final exam. The midterm is tentatively scheduled in class on Feb. 21. The midterm and the final exams will be close-book exams. Two formulae sheets are allowed for midterm. Four formulae sheets are allowed for the final.

Syllabus:

- Introduction to control systems
- Mathematical modeling of dynamic systems
- Transient and steady-state analysis
- Stability analysis
- Root-locus method
- Frequency response analysis
- Basic control system design

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 ECE Chair by email or the ECE Chair's secretary to set up an appointment.

Accommodation of Religious Observance

See <http://web.uvic.ca/calendar2013/GI/GUPo.html>

Policy on Inclusivity and Diversity

See <http://web.uvic.ca/calendar2013/GI/GUPo.html>

Standards of Professional Behaviour

You are advised to read the Faculty of Engineering document Standards for Professional Behaviour at <http://www.uvic.ca/engineering/current/undergrad/index.php#section0-25> 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

<http://web.uvic.ca/calendar2013/FACS/UnIn/UARe/PoAcI.html> for the UVic policy on academic integrity.

Plagiarism detection software may be used to aid the instructor and/or TA's in the review and grading of some or all of the work you submit.