Department of Electrical and Computer Engineering

COURSE OUTLINE

ELEC 360 – Control Theory and Systems I
Fall 2014

ALL INFORMATION ON ELEC 360 CAN BE FOUND AT:
http://www.ece.uvic.ca/~panagath/ELEC360/ELEC360.html

Instructor:

Dr. Pan Agathoklis
Phone: 721-8618
E-mail: pan@ece.uvic.ca

Office Hours:

Days: Wednesdays
Time: 10:30 AM – 12:30 PM
Location: EOW 423

Lectures:

Section(s): A01 (CRN:11203), A02 (CRN:11204)
Days: Tues., Wed. and Fri.
Time: 9:30 – 10:30 AM
Location: COR B108

Labs: **Location: ELW A321**

Section(s)	Days	Time
B01, B02	Wed.	2:00-4:50 pm
B03, B04	Fri.	2:00-4:50 pm
B05, B06	Mon.	12:00-1:50 pm

Labs begin the week of September 22

There will be two extra classes on:

Friday, **September 5, 2:30 - 3:30 pm, ECS125**
Wednesday, **September 10, 2:30-3:30pm, ECS116**

Required Text

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

Recommended material:

MATLAB, student version. See:
http://www.mathworks.com/products/education/student_version/sc

Assessment:

Assignments:	5%	
Labs	15%	
Mid-term	25%	Date: Oct. 21, 2014
Final	55%	Date: TBA

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

Due dates for assignments:

Please see http://www.ece.uvic.ca/~panagath/ELEC360/ELEC360.html#Assignments for details.

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+ A A-	9 8 7	90 – 100 85 – 89 80 – 84	
B+ B B-	6 5 4	77 – 79 73 – 76 70 – 72	
C+ C	3 2	65 – 69 60 – 64	
D	1	50 – 59	
Failing Grades	**Grade Point Value**	**Percentage for Instructor Use Only**	**Description**
E	0	0 - 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.

**Assignment of E grade will be at the discretion of the Course Instructor.*

The rules for supplemental examinations are found on page 80 of the current 2014/15 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.

Course Description

Syllabus:
Characterization of systems; linearity, time invariance and causality. General feedback theory; time and frequency domain analysis of feedback control systems; Routh-Hurwitz and Nyquist stability criteria; root locus methods; modeling of dc servo; design of simple feedback systems; introduction to state-space methods. *(Prerequisite: 255 or 260)*

Learning Outcomes:

1. Apply Laplace transforms to solve linear differential equations describing linear systems
2. Give examples of physical systems, block diagrams and state-space description
3. Analyse transient and steady state system response of linear continuous systems
4. Asses closed-loop system performance using Root-Locus analysis
5. Asses closed-loop system performance using frequency response
6. Evaluate closed-loop stability using the Nyquist method
7. Design of PID controllers, lead and lag compensators

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 eceasst@uvic.ca to set up an appointment.

Accommodation of Religious Observance

See http://web.uvic.ca/calendar2014/GI/GUPo.html

Policy on Inclusivity and Diversity

See http://web.uvic.ca/calendar2014/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/calendar2014/FACS/UnIn/UARe/PoAcI.html for the UVic policy on academic integrity.