Department of Electrical and Computer Engineering

COURSE OUTLINE

CENG 355 – Microprocessor-Based Systems

Term - FALL 2014 (201409)

Instructor

Dr. Daler Rakhmatov
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Office Hours

Days: W
Time: 13:00 – 14:30
Location: EOW 327

Lectures

A-Section(s): A01 / CRN 10392, 10393
Days: MR
Time: 10:00 – 11:20
Location: ELL 167

Labs **Location: ELW**

B-Section(s):	Days:	Time(s):
B01/02	M	12:00 – 14:50
B03/04	T	14:30 – 17:20
B05/06	R	15:00 – 17:50

Required Text

Title: *Computer Organization and Embedded Systems*
Author: Hamacher/Vranesic/Zaky/Manjikian
Publisher: McGraw-Hill
Year: 2011 (6th edition)

Optional Text

Title: N/A
Author:
Publisher:
Year:

References: Course website **http://www.ece.uvic.ca/~daler/courses/ceng355**.

Assessment:

Assignments:	5%	
Labs	30%	
Mid-term	20%	Date: October 23 (tentative)
Final	45%	

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

Due Dates for Assignments:

TBA

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

1. Course Objectives: Students will learn about hardware-software interplay and tradeoffs arising in modern embedded systems and associated system integration and interfacing issues.
2. Learning Outcomes: Students will develop a general understanding of the operation, design, application, and programming of 32-bit microprocessor-based systems, and will be able to apply studied concepts to any advanced embedded system.
3. Syllabus (tentative hours):
   - Embedded systems (2) – Applications, technologies, trends.
   - Microprocessors (4) – Digital arithmetic, ISA, datapath and control.
   - Memory hierarchy (8) – Locality, caching, virtual memory.
   - I/O interfacing (10) – Handshaking, interface circuits, interrupts, DMA.
   - Internal and external communication (8) – Signaling, protocols, buses, networks.
   - Embedded software (4) – C programming, operating system concepts.

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.