Faculty of Engineering

COURSE OUTLINE

CENG 255 – Introduction to Computer Architecture

Term – Fall 2017 (201709)

Instructor
Dr. Kin Fun Li
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Office Hours
Days: Tuesdays
Time: 13:30-14:30
Location: EOW-409

Course Objectives
• To gain an understanding of how a computer system works and its subsystems interact
• To familiarize the control of low-level computer operations using assembly language programming

Learning Outcomes
• Able to select suitable computer hardware and system software for specific engineering applications
• Able to synergize computer system hardware and software
• Able to relate high-level algorithmic concepts and programming languages to machine-level system hardware and software

Syllabus
The architecture of computer systems including concepts such as processor, memory, buses, input/output, instruction sets, interrupt processing, pipelining, performance. Families of processors, CISC, RISC. Memory organization and management including cache, virtual memory, protection. Computer arithmetic. Assembly language programming, assemblers, linkers and loaders. Hardware/Software interaction.

A-Section(s): Labs Location: ELW-B328
A01 / CRN 10434 B01 M 12:00-14:50 Alipour, Philip B. (philipbaback_orbsix@msn.com)
Days: Mon, Tue, Wed B02 T 13:30-16:20 Attarmoghaddam, Narges (n.attarmoghaddam@gmail.com)
Time: 16:30-17:20 B03 W 13:30-16:20 Hazmi, Ibrahim (ihat@uvic.ca)
Location: DTB-A120 B04 R 12:00-14:50 Sh, Umer (umerkhayyam21@yahoo.com)
B07 R 18:30-21:30 Jokhio, Salahuddin (sjokhio@uvic.ca)

Required Text
Title: Computer Organization & Embedded Systems (6) Author: Hamacher, Vranesic, Zaky, & Manjikian
Author: KFL et al.
Publisher: McGraw Hill Publisher: Available on Course Web
Year: 2012 www.ece.uvic.ca/~kinli/ceng255/

Optional Text
Title: CENG 255 Laboratory Manual

References: Lecture notes and article reprints available on Course Web (IBM/architect)

Assessment:
Assignments: 00% No due dates; solutions posted one week after assignment
Labs 25%
Mid-term 30% Date: October 18, 2017
**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.**

**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.


**Policy on Inclusivity and Diversity:** [http://web.uvic.ca/calendar2017-09/general/policies.html](http://web.uvic.ca/calendar2017-09/general/policies.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/calendar2017-09/undergrad/info/regulations/academic-integrity.html](http://web.uvic.ca/calendar2017-09/undergrad/info/regulations/academic-integrity.html)

**Equality:** This course aims to provide equal opportunities and access for all students to enjoy the benefits and privileges of the class and its curriculum and to meet the syllabus requirements. Reasonable and appropriate accommodation will be made available to students with documented disabilities (physical, mental, learning) in order to give them the opportunity to successfully meet the essential requirements of the course. The accommodation will not alter academic standards or learning outcomes, although the student may be allowed to demonstrate knowledge and skills in a different way. It is not necessary for you to reveal your disability and/or confidential medical information to the course instructor. If you believe that you may require accommodation, the course instructor can provide you with information about confidential resources on campus that can assist you in arranging for appropriate accommodation. Alternatively, you may want to contact the Resource Centre for Students with a Disability located in the Campus Services Building. The University of Victoria is committed to promoting, providing, and protecting a positive, and supportive and safe learning and working environment for all its members.

**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.