

# Computer Science 230: Computer Architecture and Assembly Language

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Computer Science 230:  
Computer Architecture and Assembly Language

*see website on Connex*

Course Topics (not in timeline order)

- ☐ The architecture of computer systems and instruction sets
- ☐ The organization and interaction of CPU, buses, memory
- ☐ The architectures of RISC and CISC machines
- ☐ Input/Output and interrupt processing
- ☐ Memory organization and management (cache & virtual memory)
- ☐ Comparative architectures
- ☐ Interface with software: assembler, linkers and loaders
- ☐ Assembly language programming and its interface with a high-level language (C) through function call conventions
- ☐ The ARM processor as a case study

# Textbook

## REQUIRED:

1. "Computer Organization and Architecture" by W. Stallings (9<sup>th</sup> edition), Prentice Hall (ISBN 978-0-13-293633-0)
2. Some C book of your choice (read notes on textbook on Connex)

## OPTIONAL:

*"Computer Architecture and Organization"*, Murdocca and Heuring, Wiley, 2007.

## EXTRA:

- *"Computer Organization"*, Hamacher, Vranesic, Zaky, 5<sup>th</sup> edition.

ALL BOOKS ARE IN THE LIBRARY, REFERENCE SECTION)

## Course and Lab Notes

Some notes and examples are given only during lectures. Many slides can be found on the course website.

Lab preparation guidance is posted ahead of session. Lab notes (during the lab) are *never* posted.

## Assignments

Will be posted on the course website (Connex).

## Communication

Connex system

➔ **HOWEVER:** this is not a distance web-based course

## Evaluation

30% - 4 assignments (7%, 7%, 10%, 6%)

24% - one mid-term test (in class)

6% - 4 quizzes in the labs (best 3 marks of 4)

40% - final exam (3 hours)

*Mid-Term Test planned for Thursday June 26, 2014*

**Note:** in order to pass the course, ALL the following conditions must be satisfied:

1. a passing mark on the final exam;
2. a passing mark on the combined mark of the assignments;
3. a passing mark overall.

### **Pre-requisite courses:**

IF (the students do not have the pre-requisite course(s) ) AND  
(the students do not have a waiver)  
THEN the students must drop themselves from the class  
ELSE the students will be dropped during the first week  
and a pre-requisite drop is shown on their record.

### **Taking the course more than twice:**

If (the students are taking the class for the third time (or  
more))  
THEN they must request, in writing, permission from the Chair.

### **UVic e-mail accounts used for important messages:**

All students **MUST** use their UVic e-mail addresses, as the  
registration system does not send messages to any other account.

IF (the students wish to use their other e-mail accounts)  
THEN they must set up an automatic forwarding system through the  
UVic netlink account

### **Course e-mail:**

Use Connex messages within the course site.

## **Labs $\neq$ Assignments**

**Lab 1 starts Thursday May 15 in ECS 249**

**→ read the lab preparation (from the course website)**

<input type="checkbox"/> LB01	Thursday	13:00	14:20	ECS 249 (20)
<input type="checkbox"/> LB02	Thursday	14:30	15:50	ECS 249 (20)
<input type="checkbox"/> LB03	Thursday	11:30	12:50	ECS 249 (15)

- ☐ You **MUST** be registered for one of the lab sections.
- ☐ No switching of lab sections.
- ☐ Quizzes take place in the lab.

# Assignment 0 (optional but due next class)

- ❑ Read the course pages starting from <http://connex.csc.uvic.ca/> and going to the CSC 230 site.
- ❑ Hand in one sheet of paper, answering the questions in the posted Assignment 0 → see Assignments menu
  1. Comment on the office hours for the instructor
  2. Introduce yourself by describing 3 things we should know about you as learners, so that we can teach effectively.
  3. Please write a paragraph, describing your expectations for the class, given what you know about yourself as a learner.
  4. Please make us aware of any special needs that you have.
  5. Describe any concerns which you have as you read the outline, as well as any assignment or area of study to which you look forward.
  6. Finally, list three questions about the class which you would like to have answered.



## Quick Quiz

- ❑ Of the ways to get in touch with, what is the BEST way?
  - Email: [mserra@uvic.ca](mailto:mserra@uvic.ca)
  - Office: ECS 526
  - Phone Number: (250) 472-5769
  - Connex Messages
- ❑ True or False: Quiz #1 will be in the first lab?
- ❑ To pass the course you need a passing mark in which of these?
  1. Average mark on the 4 assignments
  2. Midterm test
  3. Average mark on the 4 in-lab quizzes
  4. Final exam
  5. Overall Mark