Course Outline Highlights

Computer Science Department
CS2208: Introduction to Computer Organization and Architecture
Fall 2022-2023
Instructor: Mahmoud R. El-Sakka
Office: MC-419
Email: elsakka@csd.uwo.ca
Phone: 519-661-2111 x86996

Instructor and Teaching Assistance

Instructor

Professor *Mahmoud El-Sakka*
Middlesex College, Room 419
Phone: 519-661-2111 x86996
Email: *elsakka@csd.uwo.ca* (*preferred communication method)*

Office hours

Tuesday from 3:30 pm to 4:15 pm ***(in-person)***
Thursday from 3:30 pm to 4:15 pm ***(in-person)***

Graduate Teaching Assistants (TA)

For TAs names/emails, see the course outline *Section B*

Office hours

*By appointment after marking the programing assignments (**the last two assignments**)*

Course Schedule

- ***Lectures Time & place:***
  - Tuesday 1:30 pm - 3:30 pm at MC-110
    Thursday 1:30 pm - 2:30 pm at MC-110

- ***Tutorials Time & place:***
  - Thursday 2:30 pm - 3:30 pm at MC-110

Lab sessions start from Week 07 (on Wednesday, October 19, 2022)

- ***Labs Time & place:***
  - Section 03: Wednesday from 10:30 am to 11:30 am at ***HSB-13***
  - Section 05: Wednesday from 11:30 am to 12:30 pm at ***HSB-13***
  - Section 04: Wednesday from 12:30 pm to 1:30 pm at ***HSB-14***
  - Section 06: Wednesday from 2:30 pm to 3:30 pm at ***HSB-14***
  - Section 08: Wednesday from 3:30 pm to 4:30 pm at ***HSB-14***
  - Section 07: Wednesday from 4:30 pm to 5:30 pm at ***HSB-14***
  - Section 09: Wednesday from 5:30 pm to 6:30 pm at ***HSB-14***

Course Website

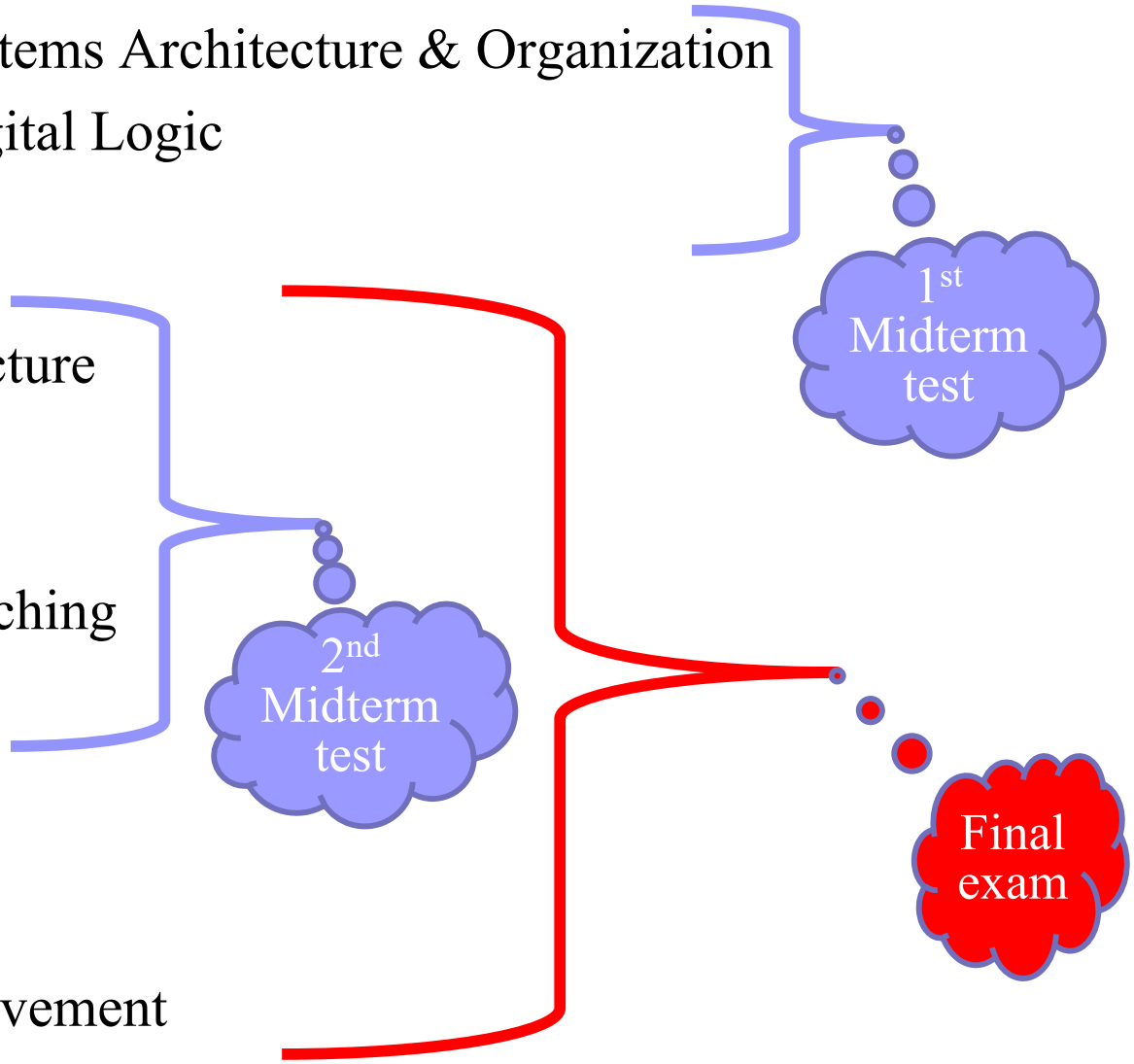
- Course material and class information will be posted on the Online Western's Learning (***OWL***) system (***https://owl.uwo.ca***)
- You are responsible for reading this information frequently
- For ***OWL*** related assistance, please read the course outline *Section H*

Course Description

- This course will introduce the basics and fundamentals of computer ***organization*** and ***architecture***,
  i.e., ***how a computer works*** and ***what a computer does***
- The course covers
  - the internal representation of various data types, e.g., characters, integers, and floating-points.
  - the addition and subtraction operations and how they are internally performed.
  - the architectural components of digital computers, how these components are interconnected, and the nature of the information flow between them.
- ARM assembly language is used to reinforce these topics.

Course Topics

- Will address the following topics:
  - Introduction to Computer Systems Architecture & Organization
  - Computer Arithmetic and Digital Logic
  - Floating Point Numbers
  - ARM Instruction Set Architecture
  - ARM Assembly Language
  - ARM Data Processing
  - ARM Flow Control and Branching
  - ARM Addressing Modes
  - Subroutine Call and Return
  - Data Storage and the Stack
  - Data Processing and Data Movement



Prerequisites

- Computer Science 1027a/b or 1037a/b
  - with a grade of at least 65%

or

- Integrated Science 1001X
  - with at least 60%

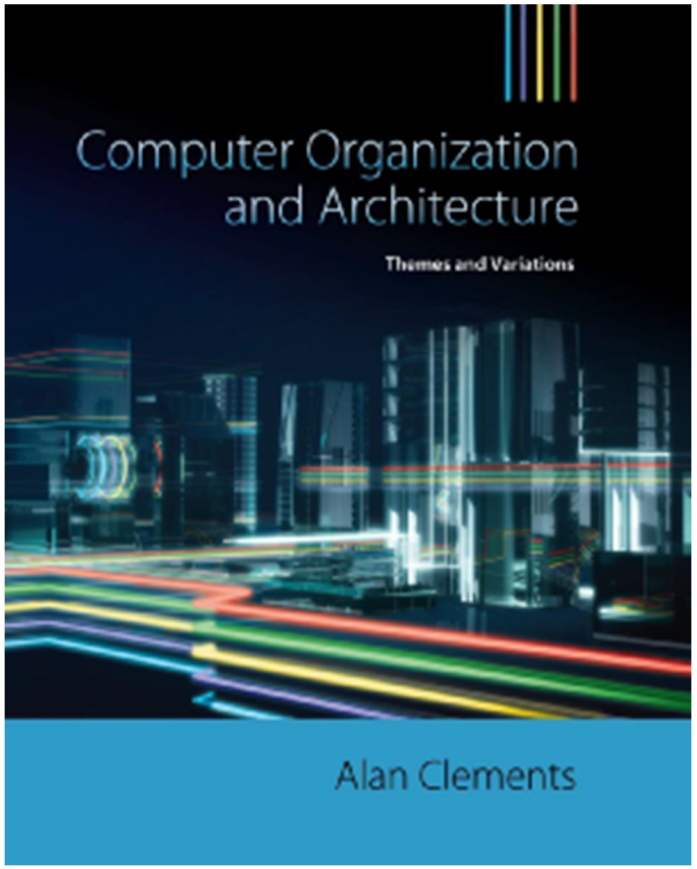
- *Students are responsible for ensuring that they have the stated prerequisites for this course, or a written special permission from the Dean*

- *Students are assumed to be familiar with a high-level programming language and with data structures such as stacks and queues.*

Textbook

- Alan Clements,
  - *Computer Organization & Architecture: Themes and Variations*
    Cengage Learning, ISBN: 978-1-111-98704-6, © 2014
    https://bookstore.uwo.ca/textbook-search?campus=UWO&term=W2022A&courses%5B0%5D=001_UW/CSC2208A

- The book is required



How much will I learn from this course?

- Depends on how much effort you will put.
  - No pain ➔ no gain

- You need to allocate *on average* ***6 hours per week*** (other than the lectures/tutorials/labs attendance time) for studying the CS2208 material

- As an anchor, start at the "*WEEK BY WEEK*" Section on the course OWL page

Methods of Evaluation

- The overall course grade will be calculated as listed below:
  - 9.0%: Weekly quizzes (*the average of the best 9 quizzes out of 10*)
  - 9.5%: Labs (*the average of the best 6 labs out of 7*)
  - 10.0%: Assignments (*the average of the best 4 assignments out of 5*)
  - 15.5%: First midterm test
  - 20.0%: Second midterm test
  - 36.0%: Final exam

To be eligible to receive a passing grade in the course

- your total marks on the two midterm tests and the final exams must be at least 50% (*i.e., at least 35.75*)

To be eligible to receive a grade of 60% or higher (i.e., to be eligible for Honors Programs) in the course

- your total marks on the two midterm tests and the final exams must be at least 60% (*i.e., at least 42.9*)

Quiz/Lab/Assignment Conduct

- For quiz/lab/assignment schedule, please read the course outline *Section L*, *Section M*, and *Section N*

- Quizzes/labs/assignments are due at 23:55 of the due date
- All submission will be submitted *electronically*
- Late submissions are ***strongly discouraged***
  - *10% will be deducted from a late submission (up to 24 hours after the due date/time)*
  - After 24 hours from the due date/time, late submission will receive a ***zero*** grade

Quiz/Lab/Assignment Conduct

- Quizzes/labs/assignments will be marked *automatically*, except the last two assignments which will be marked *by the Teaching Assistant(s)*, who follow marking schemes provided by the instructor.
- When marking a quiz/lab/assignment is completed, you will be informed via the course website and/or email

Quiz/Lab/Assignment Conduct

- A request for a mark adjustment must be made within 2 weeks following the first handed-back day
  - For quizzes/labs/assignments that are automatically marked, you can send your related questions directly to the instructor.
  - For the assignments that are marked by the Teaching Assistant(s), you need to direct any questions about marking in the first instance to your Teaching Assistant.
  - If your discussion with the Teaching Assistant is not satisfactory, you may want to further discuss the issue with the course instructor.
- *All quizzes/labs/assignments marks are considered final after 2 weeks*

Quiz/Lab/Assignment Conduct

- Quizzes/labs/assignments are to be answered individually
  - ***Never*** let others look at your work
  - ***Do not*** ask to look at others' work
  - We use automated tools to screen for cheating
- You should read the definition and *penalties* of *scholastic offences* at:
  www.csd.uwo.ca/undergraduate/current/policies/scholastic_offenses.html
- Students are expected to adhere to the *Rules of Ethical Conduct* to use the computing facilities of the Department:
  www.csd.uwo.ca/undergraduate/current/policies/ethical_conduct.html

Midterm tests and Final exam

- There will be
  - *two* ***ONLINE*** midterm test *Using Proctortrack (linear access)*
    and
  - *one* ***IN-PERSON*** final exam

- For tests/exam schedule, please read the course outline *Section P*

Accommodations and Support Services

- Please read the course outline for more information about:
  - ***Accommodation Policies (Section S)***
  - ***Academic Accommodation for Student Absence (Section T)***
  - ***Religious Accommodation (Section U)***
  - ***Support Services (Section W)***