CSC258: Computer Organization Winter 2021
Sections LEC0101, LEC0201

This course provides an introduction to the underlying digital structures of computers. Topics include digital logic representation and design, computer system organization and microprogramming.

Instructor Information

Name	Office Hours	Email
Marshall Ho	Mon 10:30a- 11:30a Wed 3:00p- 4:00p	marshall.ho@utoronto.ca

*** email your instructor if appointments outside this time are required.*

Course Information

Information pertaining to this course will be available on Quercus. The course website will have course announcements & materials, discussion boards, relevant readings, as well as assignment, lab & project details. Announcements will be made through the email registered on Quercus, but the site is required reading, and it is understood that you will check it multiple times a week.

Mark Breakdown

Component	Weight
Labs	42% (7 total, 6% each)
Project	20%
Final assessment	38% (take-home, open book) *** you must get 50% on the final to pass the course

- **Lectures:**
  - The lectures will be online and synchronous. You are expected to attend during the lecture time. While we plan to record the lectures, technical issues may occasionally interfere with the recording.
  - This course, including your participation, will be recorded on video and will be available to students in the course for viewing remotely and after each session. Course videos and materials belong to your instructor, the University, and/or other source depending on the specific facts of each situation, and are protected by copyright. In this course, you are permitted to download session videos and materials for your own academic use, but you should not copy, share, or use them for any other purpose without the explicit permission of the instructor. For questions about recording and use of videos in which you appear please contact your instructor.
- **Labs:**
  - The labs consist of practical exercises that are completed each week and demonstrated to a TA during the online lab session.
  - Pre-lab reports are mandatory for each lab, and must be submitted ahead of attending the lab session. Students who fail to do this will not be allowed to perform their demos during the lab session.
  - Labs take place every week for two months, starting in the second week of class (see dates below).
  - Tutorial sessions will be used to discuss the upcoming lab work.

- **Project:**
  - An assembly language project takes place during the last month of the course. Marks are also given for successful implementation, innovative design and creativity.
  - Project demos are performed in the lab sessions of the last 2 weeks of the course, worth 20%.

  Students will work individually for both the labs and the project.

Important Dates

Week	Topics	Milestone(s)
Jan 11 – 15	Overview, transistors, basic logic gates	
Jan 18 – 22	Combinational circuit design, K-maps	Lab 1
Jan 25 – 29	Logical devices (muxes, adders, decoders)	Lab 2
Feb 1 – 5	Latches & flip-flops	Lab 3
Feb 8 – 12	Registers, counters, finite state machines	Lab 4
Feb 15 – 19	***-- Reading Week --***	
Feb 22 – 26	Finite state machine design, midterm review	Lab 5
Mar 1 – 5	ALUs, Registers, memory	Lab 6
Mar 8 – 12	Architecture & microprogramming	Lab 7
Mar 15 – 19	Assembly language basics	
Mar 22 – 26	Assembly language program design	
Mar 29 – Apr 1	Advanced assembly language	Project demo #1
Apr 5 – 9	Assembly functions & recursions	Project demo #2
Apr 12	Make-up day if necessary	

Lateness is generally not accepted, except in cases of medical emergency. Lateness due to personal reasons must be brought to the instructor for consideration, as early as possible.

Course Textbooks

Optional:	Mano, Kime, *Logic and Computer Design Fundamentals*, 5th ed., Pearson, 2015
Other texts:	Hamacher, Vranesic, Zaky, *Computer Organization*, 5th ed., McGraw Hill, 2002 Null, Lobur, *The Essentials of Computer Organization and Architecture,* 3rd ed., Jones & Bartlett Publishing, 2012

Administrative Details

Plagiarism is very bad. Please don't do it. It just makes things unpleasant for everybody involved. In case you need clarification on the university's policies on plagiarism, please consult the *Code of Behaviour on Academic Matters* from this website: www.artsci.utoronto.ca/osai/students.

Feedback on the course is solicited during midterm and end-of-term evaluations. However, feedback before that point is encouraged, to improve the delivery of the course. Please make sure your concerns are voiced to the course instructor or the teaching assistants whenever possible.

In the event of illness, please fill out the absence declaration form on ACORN and notify us to request special consideration.