

CSCB58: Computer Organization Summer 2021

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	Email	Section
Rabia Bakhteri	Zoom meetings	rabia.bakhteri@utoronto.ca *	5101
	Wednesdays, 1.00-3.00pm Link: https://utoronto.zoom.us/j/88939103501 password: 246810		

* please write "CSC258" in the subject header of your emails.

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	32% (best 8 out of 9, 4% each)
Midterm Test	13%
Project	15%
Final Assessment	40% (3-days long, to be announced) → <i>you must get 50% on the final to pass the course</i>

- **Lectures & Office Hours:**

- **Zoom session:** <https://utoronto.zoom.us/j/83335899927> password: 123258
- **Time: Mondays, 2.00pm**
- The lectures will be pre-recorded and available on Quercus every Friday evening. You are expected to view the lecture recordings by Monday at 2pm at which point we will have a flipped classroom session via Zoom to review the class material, do quizzes and answer any questions you may have

- **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 on Quercus before the lab begins. 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 within the lecture hours will be used to discuss the upcoming lab work.

- **Project:**

- A large assembly language project takes place during the last month of the course. Marks are given for successful implementation, innovative design and creativity.
- Project demos are performed in the last lab sessions of the course, and are worth 20% in total.

Students will work individually for labs and in teams of 2 for the project.

Important Dates

Week	Topics	Milestone(s)
May 7	Overview, transistors - Videos on Quercus	
May 10 – 14	Combinational circuit design, K-maps	
May 17 – 21	Logical devices (muxes, adders, decoders)	Lab 1
May 24 – 28	<i>Victoria Day</i> Latches & flip-flops	Lab 2
May 31 – June 4	Registers, counters, finite state machines	Lab 3
June 7 – 11	Finite state machine design	Lab 4
June 14 – 18	Registers, memory (RAM & ROM)	Lab 5
June 21	Mid-term Exam	
June 22 – 26	-- Reading Week --	
June 28 – July 2	Architecture & microprogramming	
July 5 – 9	Assembly language I + Project Proposal	Lab 6
July 12 – 16	Assembly language II	Lab 7
July 19 – 23	Assembly language III	Lab 8
July 26 – 30	Assembly language IV	Lab 9
Aug 2 - 6	<i>Civic Day</i>	Project Demo 1
Aug 9 - 11	Assembly language V & Final Exam Review	Project Demo 2

Lateness is generally not accepted, except in cases of medical emergency. In the event of illness, students should fill out the absence declaration form on ACORN.

Discussion Board

Piazza site: <https://piazza.com/class/ko45dru0l1u18z>

We will be using Piazza for class discussions. For questions related to course content, please post on Piazza instead of emailing them to the instructor. Personal questions are best sent through email.

Course Textbooks

Recommended:	Mano, Kime, <i>Logic and Computer Design Fundamentals</i> , 4th ed., Prentice Hall, 2008
Other texts:	Hamacher, Vranesic, Zaky, <i>Computer Organization</i> , 5th ed., McGraw Hill, 2002 Null, Lobur, <i>The Essentials of Computer Organization and Architecture</i> , 3rd ed., Jones & Bartlett Publishing, 2012

Administrative Details

Plagiarism is not a good idea. It can carry consequences for the rest of one's life. Please don't do it and don't help anyone else do it either. In case you need a reminder about the university's policies on plagiarism, please consult the *Code of Academic Matters*: www.artsci.utoronto.ca/osai/students

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