

ELEC 4708: Advanced Digital Integrated Circuits

Objectives

Lectures

Analysis, Design and Implementation of Modern VLSI Circuits and Systems

Labs

Use of a Modern IC Technology and Professional Cadence Tool for Designing a Circuit from a Functional Description to Final Chip Layout

Expected Learning Outcome

- VLSI Functionality, Speed, Energy and Reliability
- Device, Circuit, Logic and System Level Design
- Circuit Simulation, Layout Editor, HDL Design (RTL) and Chip Tape-out

Marking Scheme

		Attendance and performing all labs are mandatory.
		Not doing a single lab equals failure in course.
Laboratory	25%	No lab exemptions are given.
		Lab reports should be submitted online.
Assignments	5%	Expect 3 to 5
Midterm Exam	20%	Tuesday 2 Nov 2021
		Final Exam paper is for evaluation only and will not be
Final Exam	50%	returned to students.
		Students must pass the final exam to pass the course.

- E-Proctoring: Please note that tests and examinations in this course will use a remote proctoring service provided by Scheduling and Examination Services. You can find more information at <https://carleton.ca/ses/e-proctoring/>.

The minimum computing requirements for this service are as follows:

Hardware: Desktop, or Laptop

OS: Windows 10, Mac OS 10.14, Linux Ubuntu 18.04

Internet Browser: Google Chrome, Mozilla Firefox, Apple Safari, or Microsoft Edge

Internet Connection (High-Speed Internet Connection Recommended)

Webcam (HD resolution recommended)

Note: Tablets, Chromebooks and Smartphones are not supported at this time. Windows-based tablets are not supported at this time.