

ELEX 2117 Course Information

Instructor

Ed Casas. You can reach me by email at ecasas@bcit.ca¹, or by phone at +1 604 432 8936.

Office hours are during your lunch hour (from 12:30 to 1:20) on Tuesday, Thursday, and Fridays in SW1-3061. Office hours are also available by appointment on Tuesdays from 1:30 to 2:20.

The lab instructor for all sets will be [Andrew Mokrzycki](mailto:Andrew_Mokrzycki@bcit.ca) (Andrew_Mokrzycki@bcit.ca).

Course Website

Lecture notes, lab instructions, quizzes, exams, and solutions will be available on the Learning Hub course website.

The website also contains the latest schedule of lectures, labs, quizzes, exams, and the course withdrawal deadline.

You can set up text or email notifications of updates by clicking on your name at the top right of any Learning Hub page and selecting Notifications. I recommend subscribing to News - new item available and optionally to Discussions - new post.... You'll also need to select Subscribe from the drop-down box next to the individual forum or topic discussion name.

Getting Help

Please don't ask questions before or after a lecture. The break between lectures allows one instructor to pack up and leave and the next one to come in and set up. If you want to ask a question, your choices, in decreasing order of preference, are to ask:

- During a lecture.
- On the website under Activities / Discussions². This allows everyone to benefit from the answer.
- By email if it's a personal matter such as marks or absences.

¹Don't include links in your email.

²Anonymously, if you wish.

- During office hours.

Evaluation

Component	Weight
Labs (8)	20%
Quizzes (5)	50%
Final Exam (1)	30%

ELEX 2117 is a two-component course as defined in section 3.4 of [BCIT Policy 5103-PR1](#). This means you must pass both the practical (lab) and theory (quiz and exam) components of the course to pass the course. If your overall mark is over 50% but you do not pass both components you will receive a mark of U (unsatisfactory); this counts as a failure.

Labs

Lab instructions will be posted on the website one week before each lab. You must read and have a solution (possibly incomplete) before your lab session or you are unlikely to complete the lab.

The mark for each lab is based on demonstrating successful completion (approximately 60%) and a brief lab report (approximately 40%).

You may be able to demonstrate some labs by submitting a video. Other labs will require that you demonstrate your lab in person and then make changes requested by the lab instructor.

Submission deadlines will be shown on each Assignment folder on the website. All sets will have the same assignment folders and deadlines.

Quizzes and Exams

Quizzes will be held during the scheduled lecture times on the dates shown in the course schedule.

A three-hour final exam will be scheduled during the final exam week.

Quizzes and exams will be "open book" – you may use any books or notes you wish. However, you may not use any electronic device (smart watch, headset,

earbuds, cell phone, tablet, laptop, etc.) other than a calculator.

Use of a 0.5 mm mechanical pencil and plastic eraser is recommended when writing quizzes and exams. Erasing errors is faster, takes less space, and is easier to read than striking out.

Marking

Marked labs will be returned, with comments and a mark, to the feedback section in the corresponding assignment folder. Not all items may be marked.

Marked quizzes and exams will be returned by email.

The marking scheme for each lab, quiz, and exam will be published on the website under Content / Course Information after marking. Each comment will show the number of marks deducted.

Poor weather, transportation failures, power or network outages, family crises, job interviews, citizenship ceremonies, forgetfulness, etc. may cause you to miss an evaluation for reasons beyond your control.

To accommodate this, your final lab and quiz marks will be computed as the **truncated mean** – the average after omitting the best and worst marks. This means that missing one quiz or one lab, by itself, will not affect your final mark. By omitting the highest and lowest marks your final grade should more accurately reflect your abilities.

Students can retrieve details of their marks from the **marks** document found under Content / Course Information. The password required is available in the Password row in the Grades page of the website.

Absences and Attendance

Do not come to campus if you feel unwell. If you were unable to complete a quiz or lab because of illness please notify the program administrator, **Gundi Minato**, who will notify all affected instructors.

Absences due to a documented illness will not affect your final mark. However, you must complete at least five labs and three quizzes or exams to pass the course.

While recommended, you do not have to attend lectures. The instructor will try to record each lecture and make the recordings available on the course web site. Students will be able to complete most labs

at home and submit videos demonstrating successful completion. You must convert the video to an acceptable file size and format.

Lecture Notes and Other Resources

There is no textbook for this course. Instead, lecture notes will be provided for each topic.

These will include exercises to be completed during the lecture. The answers will be posted after the end of a set of lectures.

The website contains other resources including two textbook chapters, datasheets, software, and links to online materials.

Previous versions of this course are archived at <http://people.ece.ubc.ca/edc>.

Equipment

Parts kits are available from the BCIT bookstore for \$6.95. You'll need to ask for the kit at the front counter and show ID because the kits are only sold to students registered in the course.

You will also need some components from your Level 1 parts kit: the CPLD board and USB-Blaster, some space on your breadboard, and Dupont/Berg jumper wires. Students in ELEX 2117 can buy the ELEX 1117 **CPLD kit** from the Bookstore if necessary (\$19.90).

A calculator that can convert between decimal, binary and hexadecimal number bases will be useful.

Software

We will use **Quartus Prime** Lite Edition version 23.1 for logic synthesis and **ModelSim-Intel® FPGA Edition (includes Starter Edition)** version 20.1 for simulation. The Modelsim installer is available in the ELEX 2117 folder on ShareOut. The course website has links to, and information about, this software. Earlier versions will also work³. You can install this software on your computer or use it via **AppsAnywhere**.⁴

³With some changes to the instructions.

⁴If installed on your PC, avoid using the same version from AppsAnywhere.

Lab Reports and Videos

A document on the website under Content / Course Information explains how to prepare lab reports and video submissions. Read it and follow the instructions.

No marks will be awarded for video demonstrations that do not clearly show the specific behaviour specified in the lab notes.

Submit files to the correct folder under Activities / Assignments on the course website. You may use any file name. Don't add comments – we won't see them. You should receive an email confirmation; save it.

Double-check that you've used the correct folder and make sure your PDF and video submissions can be viewed *in a web browser*. Files embedded in a PDF file will typically not be visible.

Videos created by mobile phones are often *not* viewable in a browser and excessively large. Use a video format converter such as [avidemux](#) to convert your video. Select (1) Video Output as "MPEG4 AVC (x264)" and (2) Output Format as "MP4 Muxer". If necessary, use the Video Output Configure options to reduce the file size to 25 MBytes or less.

You may receive a mark of zero for a submission that cannot be viewed in a *web browser*⁵ or is too large.

Submissions may be collected at any time after the submission deadline. The submission folder will be hidden when the submissions are collected. You can submit as often as you want. If you're not finished by the deadline, submit the incomplete version and update it later if the folder is still accessible.

The website will not warn you if you submit the wrong file, submit it to the wrong folder, or if it's unreadable or unviewable. This happens every year. No allowances will be made for these types of mistakes.



Important!

- 1. If you submit the wrong file or to the wrong folder you will receive a mark of zero for that submission.**

⁵"Browser" does not include word processors, document viewers, and media players; this software may not be installed on the instructor's computer.

- 2. You must submit your reports *in PDF format*.**

- 3. Videos that cannot be viewed *in a web browser* or are larger than 25 MBytes will receive a mark of zero.**

This policy will seem harsh when you get no credit for something on which you've spent much effort. Unfortunately, it's necessary to run the course efficiently and equitably.

Academic Integrity

This course has a zero-tolerance policy on Academic Misconduct. Verifiable offences will result in a mark of zero. A report will also be filed with the Student Life Office. The penalty for a second instance of Academic Misconduct is determined by the Associate Dean but is typically a failure in the course where the second offence occurred.

This policy applies to all graded activities (labs, quizzes, and exams). There are no exceptions.

Labs and exams in this course must be done *individually*. Students are encouraged to seek help from classmates and other sources but copying is not allowed. Instances of plagiarism will be dealt with according to BCIT policy [5104](#).

Here are some guidelines for this course:

Don't:

- divide up the work or work together on solutions
- submit a modified copy of someone else's solution
- ask to look at someone else's solution or show someone else your solution, not even in rough form
- write out a solution for someone else, not even on a white board
- copy or paraphrase an answer from a web site⁶

⁶This includes AI-generated content.

Do:

- help someone else come up with their own solution by asking them questions
- explain the question (but not the solution)
- explain material found in the lecture notes or other references
- share books, papers or links to useful reference material – unless finding this material is part of the assignment
- use search engines and AI tools to help you understand the question⁷

Briefly, if a classmate asks for help, help them to find their own solution, do not show them yours. Instead, explain where to find the information they're lacking so they can find the answer themselves.

The reason for this distinction is that learning requires each student to solve problems on their own.

When copying is detected I can't tell who copied from whom and all students involved will be penalized.

Labs, quizzes and exams may be set up in a way that allows plagiarism to be detected. This may not be obvious to you.

Please ask if any of this is not clear. The penalties for Academic Misconduct are severe, and misunderstanding the course policies will not be accepted as an excuse.

Aside from the risk of penalties, academic misconduct is unfair to your peers and to yourself. Don't try to justify it by arguing that "everyone does it" (they don't).

Distributing Course Materials

Lecture recordings are for students in the course and may not be redistributed.

Please ask before distributing other materials I've posted. I typically give permission under a CC BY-NC-ND [Creative Commons](#) license for my own work but this is not possible when the materials are owned by others, such as BCIT.

⁷But not to find the answer.

Quiz

Are the following true or false?

- I can submit documents prepared using Microsoft Word.
- I can submit **.docx** files.
- I must pass the lab portion of the course to pass the course.
- If I missed a midterm exam because I was sick I should email the instructor a medical certificate.
- The instructor prefers that I ask questions by email.
- Missing a quiz or lab will affect my final mark.
- My marks will be available under Grades on the course website.
- It's OK to work together on labs.