

ELEX 7860 Course Information

January 6: Added lecture and lab schedule.

Instructor

Ed Casas. You can reach me by e-mail at ecasas@bcit.ca, by phone at +1 604 432 8936 or by posting a question to the course web site (see below).

Office Hours

My office is in SW1-3061, accessed through SW1-3059. Office hours are:

Day	Time
Thursday	{ 11:30 — 13:20 14:30 — 15:20
Friday	11:30 — 13:20

It's a good idea to let me know if you intend to come by as I may be away from my office.

Course Web Site

Lecture notes, assignments, lab instructions and solutions will be handed out during lectures and will also be made available on the course web site (<https://learn.bcit.ca/d2l/home/518527>).

Questions on topics of general interest such as lab scheduling, assignment questions, etc. should be asked using Learning Hub's Activities → Discussions feature. Other questions should be sent to the instructor directly.

However, please do not send e-mail from the course web site; these e-mails have invalid return e-mail addresses, I cannot reply to them and it could take a while for me to notice them. Instead, use the e-mail address above.

The 2013 version of this course is archived at <http://www.ece.ubc.ca/~edc>.

Lecture, Lab and Exam Schedule

Lectures (location varies):

Day	Time
Monday	11:30 AM
Thursday	1:30 PM
Friday	10:30 AM

Labs in SW1-3585:

Day	Time
Thursday (Set 8S, 8T)	8:30 AM–11:20 AM

The tentative lab and lecture schedule is shown below:

Week of	Mon 11:30	Thurs 8:30	Thurs 1:30 Lab	Fri 10:30	Hours
Dec 31	<i>Holiday</i>	Lec		Lec	
Jan 7	Lec	Lec	Video	Lec	7
Jan 14	Lec		1 - 8S	Lec	
Jan 21	Lec	Lec	1 - 8T	Lec	8
Jan 28	Lec		2 - 8S	Lec	
Feb 4	Lec	Lec	2 - 8T	Lec	8
Feb 11	Lec		3 - 8S	Lec	
Feb 18	<i>Holiday</i>	Lec	3 - 8T	Lec	7
Feb 25	Lec		4 - 8S	Lec	
Mar 4	Lec	Lec	4 - 8T	Lec	8
Mar 11	Lec		5 - 8S	Lec	
Mar 18	Lec	Lec	5 - 8T	Lec	8
Mar 25	Lec		6 - 8S	Lec	
Apr 1	Lec	Lec	6 - 8T	Lec	8
Apr 8	Lec	Lec		Lec	3
Apr 15	Exam Week				3
				total	60

The Thursday morning lecture that falls on the first week of each lab is skipped to provide contact hours that add up to 4 credits. Students in set 8S will do the lab first but there won't be a lecture on the day of the first lab.

Lab instructions will be handed out and posted on the course web site. Labs begin January 17.

Two one-hour mid-term exams will be scheduled during regular lecture times (dates TBD).

A three-hour final exam will be scheduled the week of April 15.

Schedule changes will be posted on the course web site.

Evaluation

Component	Weight
Assignments	20%
Labs	20%
Mid-Term Exam	20%
Final Exam	40%

Assignments

A few (3 or 4) assignments will be given out during the term. You will have at least one week to complete each assignment. Solutions will be handed out for all questions but only some of the questions will be marked.

Assignments should be considered as take-home exams – collectively they are worth 20% of your final mark, must be done individually and each will take many hours to complete.

Labs

The mark for each lab will be calculated as follows:

Component	Weight
pre-lab assignment	20%
completion of lab objectives	60%
complete and accurate lab report	20%

You will have approximately one week to prepare each pre-lab report. The purpose of the pre-lab assignment is to prepare for the lab so if the pre-lab report is not submitted before the start of the lab you will receive a mark of zero for that pre-lab.

The lab completion mark will depend on the lab. It may require demonstrating a working program or simulation results. In other cases it will require submitting screen captures or measurements. In these cases you must submit a lab report including the appropriate results to get the lab completion mark.

You will have at least one week after your lab to complete and submit your lab report. Lab reports submitted after the reports are collected or submitted in the wrong format will receive a mark of zero.

Please don't include a copy of your Pre-Lab Report in your Lab Reports. It's unnecessary material I have to download and skip.

As with assignments, only parts of each pre-lab and lab report may be marked.

You do not have to pass the lab portion of the course to pass the course.

Exams

Both mid-term and final exams will be "open book" and will allow any books or notes but no electronic devices other than a calculator.

Most students find it useful to bring well-organized lecture notes and exercise solutions to the exams.

Attendance and Absences

I recommend, but do not require, attendance at lectures. Students who do not attend lectures forfeit the opportunity to influence the course content, re-scheduling of labs and exams and changes to the marking scheme. They must check the course web site regularly to stay informed of such changes. I recommend all students subscribe to Learning Hub News postings to get timely updates. You can do this on Learning Hub by selecting Notifications from the drop-down menu next to the News section on the course Home page.

You must attend a lab to get credit for completing it.

If you were unable to complete an assignment, lab or exam due to illness, please submit a [Student Medical Certificate](#) to [Kelly Voros](#) who will then notify the instructors of the courses affected.

Lab Access

You will be able to use the lab after your scheduled lab session if you need to complete a lab. Swipe your ID card in the reader to briefly unlock the door. You may also need to enter a security code (keypad symbol flashing). You can register a security code at the library.

However, please do not enter the lab if the room is alarmed (bell symbol lit). During times that the lab is supposed to be available (to be announced) you may call security and ask them to disable the alarm.

Lecture Notes

There is no textbook for this course. Instead, lecture notes will be handed out before each lecture.

Most lectures will include exercises that will be completed during the lecture. There isn't enough space to complete the exercises on the handouts so you should bring blank paper or a notebook to class where you can take notes and work out the answers to the exercises.

The answers that are worked out in class will, eventually, be made available on the course web site. But you should try to work out the exercises on your own.

Optional References

The text by Andy Molisch [Wireless Communications](#), Second Edition is a good reference and covers more material and in more depth than we will be able to in this course. A copy is available in the BCIT library.

Another useful reference is the text by Andrea Goldsmith, also titled [Wireless Communications](#), which treats the course material at a more general level. It is available on-line through the BCIT library.

Document Preparation and Submission

Document File Formats

In this course you will be asked to submit assignments and lab reports in specific file formats. *If you submit an assignment or lab report in the wrong file format you will receive a mark of zero for that submission.*

Just as important as the file format is making sure your document is submitted to the correct submission folder and that it is readable. After uploading your submission, check that you've used the correct submission folder and then download your submission to make sure it is readable.

Creating PDF Files

Many word processors (including recent versions of Microsoft Word and the free [LibreOffice](#)) will print or export to PDF files. There are also free utilities such as [FreePDF](#) that allow you to "print" any document to a PDF file.

If you prefer to write your labs and assignments by hand you can scan them and convert them to PDF. If you have a phone or tablet with a camera there are various apps to photograph and convert your handwritten assignments to PDF (Scanbot, OneNote). If you embed photos in a word processor document, please rotate, crop and scale them appropriately.

Please make sure the documents you submit are readable. Grayscale scans are easier to read than two-level.

Units, Notation and Significant Figures

Numerical results without units are incomplete and will be graded as incorrect.

Use [SI units](#) and [engineering notation](#). For example, 1.2×10^{-5} F should be written as $12\mu\text{F}$.

Read the Wikipedia article on [Significant Figures](#). For example, if your measurements have three significant figures don't give results with 10.

Cover Pages and Templates

Each submission *must* include the following on the first page, preferably on a separate cover page: the course number and name, the lab or assignment number and title, your name and BCIT ID, and the date the document was created.

You may find it helpful to create a document template that you can re-use for future submissions.

Submission

All assignments, pre-labs and lab reports must be submitted to the correct folder in the Activities → Assignments section on the course web site.

You may use any file name for your document. Don't add comments when submitting your documents – I won't see them. Note that submitting file(s) requires two steps: "Add" and then "Submit" it/them. After submitting your file, check that you can download and read it. You should receive an e-mail confirmation; save it.

Submissions may be collected anywhere from a few minutes to a few weeks following the submission deadline. If you have not submitted your file(s) to the correct folder when I collect them you'll receive a mark of zero for that submission.

You'll be able to update assignments and lab reports until the time I collect them. So if you're not finished by the deadline I recommend submitting the incomplete version and updating it later if you get a chance.



Important Notes

- 1. If you do not submit an assignment or lab report in the required file format it will not be downloaded or read and you will receive a mark of zero for that submission.**
- 2. You must submit the document in PDF format unless another file format is specified.**

The web site will not warn you if you submit the wrong file, submit it to the wrong folder, if the file is in the wrong format or if it's unreadable. Each of these things happen every year. However, no allowances will be made for these types of mistakes.

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

Marking

The marking scheme will be published on the course web site under "Course Information" along with your encrypted marks. Each student will be supplied with a password they can use to view their own marks.

Marked assignments and lab reports will be uploaded back to the Assignments section of the course web site and will be available in the "feedback" column. Typically each comment indicates an error for which a mark was deducted. Not all items in each report will be marked.

Copyright and Plagiarism

Throughout your career you will use the work of others. This introduces two different risks: copyright infringement and plagiarism.

Whenever you use the work of others you should ask yourself two questions:

- Am I allowed to copy this material? This question is answered by Canadian copyright law and determines whether you would infringe copyright.
- Do I need to cite a source for this idea? This question is answered by BCIT's policy on academic integrity and determines whether you would commit plagiarism.

Copyright law forbids copying others' work without permission although there are certain exceptions. In addition to the "fair dealing" exemptions, BCIT belongs to [Access Copyright](#) which gives you permission to copy and download material from many publishers.

Plagiarism means taking credit for the work of someone else. Briefly, you must reference the source of an idea if there's a possibility a reader could mistake it as your own.

You are expected to comply with these laws and policies. The BCIT Library has introductory material on [copyright](#) and [avoiding plagiarism](#).

Academic Integrity

In this course, assignments, labs and exams are to be done individually. Students are encouraged to seek help from classmates but copying is not allowed. Instances of plagiarism will be reported to the Associate Dean and dealt with according to BCIT policy [5104](#) ("Sanctions range up to and including suspension from the institute.").

Here are some guidelines for this course:

Don't:

- divide up the questions on an assignment 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

Do:

- help someone else arrive at their own solution by asking them leading questions
- explain your interpretation of 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
- compare your final numerical results – but only if each person has arrived at their answer independently; any discrepancies must be resolved independently

Briefly, if a classmate asks for help, help them find their own solution, do not show them yours. When copying is detected we can't tell who copied from whom and all students involved will be penalized.

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

- If I missed a lab because I was sick I should e-mail the instructor a medical certificate.
- The instructor prefers that I ask questions using the Learning Hub e-mail system.
- Plagiarism could harm your professional reputation.
- Plagiarism could result in criminal charges and a fine.

Recordings and Distribution

You may record lectures for your own personal use only.

Please ask for permission if you wish to distribute any materials made available during the course. I will typically give permission under a [CC BY-NC-ND Creative Commons](#) license where possible. Note that copyright in some materials may be owned by others, such as BCIT or previous course instructors.

Quiz

Are the following true or false?

- I can submit assignments prepared using MS Word.
- I can submit **.docx** files.
- I must pass the lab portion of the course to pass the course.
- If I miss a lecture I must get a note.