

ELEX 7860 Course Information

Instructor

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Course Web Site

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, and exams.

Please post questions about the course, lecture, or lab material on the website under Activities → Discussions. Email questions on personal matters, such as your marks or absences, to the instructor.

You can get text or email notifications of updates to Learning Hub courses by selecting Notifications from the drop-down menu next to your name at the top right of any Learning Hub page. I recommend subscribing to News - new item available and optionally to Discussions - new post

See the course website for the latest schedule of lectures, labs, quizzes and exams.

Evaluation

Component	Weight
Labs	20%
Quizzes	50%
Final Exam	30%

For consistency with other courses in the program, ELEX 7860 is a two-component course as defined in section 3.4 of [BCIT Policy 5103-PR1](#). This means you *must* pass both the lab and theory (exam) portions of the course to pass the course. If your overall mark is over 50% but you fail either the theory or practical (lab) parts of the course you will receive a mark of U; this counts as a failure.

Labs

Lab instructions will be posted on the course website beginning the second week of the course.

Labs are every second week.

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

Only parts of each lab report may be marked.

Quizzes

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

Exams

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.

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.

Attendance and Absences

I recommend, but do not require, attendance at lectures. If you miss a lecture you can review a recording which will be available on the course website after the lecture.

Students who do not attend lectures forfeit the opportunity to influence the course content, re-scheduling of labs and quizzes and changes to the marking scheme. They must check the course web site regularly to stay informed of such changes.

If you were unable to complete a quiz, lab or exam because of illness please notify the program administrator, **Gundi Minato**, who will notify all affected instructors.

Lecture Notes

There is no textbook for this course. Instead, lecture notes will be made available on the course website.

Most lectures will include exercises that will be completed during the lecture. The answers will be made available on the course website, but you should try to work out the exercises on your own.

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.

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

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.

Lab Reports

File Formats and Folders

In this course you will be asked to submit lab reports in specific file formats. *If you submit a lab report in the wrong file format or to the wrong folder you will receive a mark of zero for that submission.* Note that the website will not warn you if you submit the wrong file type.

Just as important as the file format is making sure that your document is submitted to the correct folder and that it is readable. After uploading your submission, check that you've used the correct submission folder and make sure it's readable by viewing it on the course website.

Creating PDF Files

Word processors (recent versions of Microsoft Word and the free **LibreOffice**) will export to PDF files. Please rotate, crop and scale any images appropriately. Most operating systems also allow you to "print" to a PDF file from their print dialogs.

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.

Report Format

Divide each report into sections using headings. For example, "Measurements".

Follow each figure (diagram or photo) or table with a caption with identifying it. For example "Power (dBm) versus frequency (MHz) at 10 dBm input level."

Add a cover page to each report containing: the course number and name (e.g. "ELEX 7860 Wireless

Communications”), the lab number and title (“Lab 5 - Mixer IP3”), your name and BCIT ID, and the date the document was written. You may find it helpful to create a template that you can re-use for future submissions.

Submission

All 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. 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 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.

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.



Important Notes

- 1. If you submit a file in the wrong format it will not be 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.**

Report Marking

Marked 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 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](#).

Here are some guidelines for this course:

Don't:

- divide up the questions 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.

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

Distributing Course Materials

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

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

Quiz

Are the following true or false?

- I can submit lab reports 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.
- 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.