ELEX 4340 Course Information

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 Discussions section of the course web site (see below).

Office Hours

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

Day	Time
Tuesday	3:30 PM– 5:30 PM
Wednesday	10:30 AM– 11:30 AM
Thursday	12:30 PM– 2:30 PM

It's a good idea to let me know if you intend to visit as I may be away from the office. Other times are also possible by appointment.

Lab and Lecture Schedule

Lectures are 50 minutes long starting at:

Day	Time
Wednesday	8:30 AM
Thursday	2:30 PM
Friday	2:30 PM

There is no lecture or lab on the Rememberance Day (Wednesday, November 11) holiday. Note that the lecture rooms may change for the week of lectures in January.

Labs are 170 minutes long on Wednesdays at 11:30 AM in SW1-3575. Lab notes will be handed out and posted on the course web site.

Any unscheduled changes to the published room numbers, lecture and lab schedules will be posted on the course web site.

Evaluation

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

Assignments

Several 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 not all questions will be marked. Each assignment should take several hours to complete and can be considered a "take-home exam".

Labs

The mark for each lab will be calculated as follows:

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

The purpose of the pre-lab assignments is to prepare for the lab, so it must be submitted before the start of the lab or you will receive a mark of zero for the pre-lab. The calculation of the lab completion mark will depend on the lab. It may include demonstrating working operation of a program or circuit or submitting screen captures or measurements. Labs must be completed and reports submitted within one week of the end of the lab. Any lab reports not submitted when the reports are marked will be given a mark of zero.

Some labs will require that you submit a report with appropriate results to get lab completion marks.

Exams

There will be one two– or three–hour final exam and one 50–minute mid-term exam. Exams will allow any

books or notes but no electronic devices other than a calculator.

Absences

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.

How to Do Well

What do you need to do well in this course?

to pass: attend all lectures and labs and submit all assignments and lab reports with answers – right or wrong

to get above 70%: actively participate by asking questions of yourself, your colleagues and/or the instructor

to get above 90%: review the material critically and try to find the instructor's mistakes

Your mark will also depend on your ability to follow instructions and pay attention to details. Students often fail to notice important details and lose marks for things such as giving a very complete and detailed answer to a different question, submitting in a different file format (.doc, .zip) than the one requested, or doing the work and then submitting it late or not at all.

Lecture Notes

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

Most lectures will include exercises that you will complete during the lecture. There isn't enough space to complete the exercises on the handouts so you should bring 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 Beasely, Electronic Communications: A Systems Approach is used by other courses in the Telecom program and covers some of the material in this course.

Andrew Tanenbaum's *Computer Networks*, 5th Edition and William Stallings' *Data and Computer Communications*, 9th edition, both published by Prentice-Hall are readable introductions to many aspects of computer networking. Both are available from the BCIT Library.

Course Web Site

Lecture notes, assignments, lab instructions and solutions will be be handed out during lectures and will also made available on the course web site (`https://learn.bcit.ca/d2l/home/260331`).

Students can also ask and answer questions using the web site's "Discussions" feature.

Please do not send e-mail from the course web site, these e-mails have invalid return e-mail addresses and I cannot reply to them.

Previous versions of this course including lectures, notes, assignments, exams and solutions, are archived at `http://www.ece.ubc.ca/~edc`. This is a good source of practice questions for exams.

Document Preparation and Submission

All assignments, pre-labs and lab reports are to be submitted on the course web site.

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

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

Document File Formats

Much of your professional work will involve working with electronic documents. There are many document formats and the consequences of preparing a document in the wrong format can be serious.

In this course you will be asked to submit assignments and lab reports to the course web site in specific file formats. *If you do not submit an assignment or lab report in the required file format I will not read it and you will receive a mark of zero for that submission.*

For this course, when the file format is not specified, you must submit the document *in PDF format*.

Just as important as the file format is making sure your document is submitted to the correct dropbox and that it is not corrupted. I recommend downloading your submissions to make sure they are readable.

Creating PDF Files

Many word processors (including the free LibreOffice) will 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. You can use the NAPS2 software and the scanner in SW1-3555. If you have a smart phone with a camera you can also use an application (e.g. Tiny Scanner or Genius Scan+) to photograph and convert handwritten assignments to PDF.

Make sure the documents you submit are readable. Grayscale scans are usually easier to read.

Embedding Content

You should learn to include various types of content in your documents. In particular:

- scans or photographs of other printed or handwritten documents;

- graphs and tables created in other 'Office'-type programs and embedded in your document;

- the screen output of arbitrary software using Windows' 'Snip' tool

- program listings (e.g. open in Notepad++ and use Plugins / NppExport / Copy RTF to clipboard and paste into your word processor)

Significant Figures

Read the Wikipedia article on Significant Figures. Marks may be deducted for using an unwarranted number of significant figures in your assignments and lab reports.

Cover Pages and Templates

Each submission must include the following on the front, 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.

Proctored Lab Hours

The telecom labs (SW1-3555, -3575, -3585) will be open and supervised for a few hours on most evenings. Drop by SW1-3555 and ask the proctor for access to 3575 if you need to finish off a lab. You can also drop in if you want to work with your colleagues in a quiet environment. Hours will be posted on the lab doors.

Equipment

A calculator that can convert between decimal, binary and hexadecimal number bases will be very useful. A calculator that can compute cumulative Gaussian probabilities (such as the Sharp EL-W516XBSL or Casio FX-115ES/991ES) will be useful for a few problems. In exams you may use any calculator without a wireless interface (i.e. without WiFi, BlueTooth or IR capabilities).

You will need a USB Flash Drive to transfer data to and from lab instruments. It should be formatted with the usual MS-DOS FAT-32 file system (rather than NTFS, for example). Encrypted drives will not work. The instrument manuals specify a maximum drive capacity of 8GB but larger drives often work.

For some of the labs you will need your solderless prototyping board and 3rd-term parts kit.

Software

There is a range of free and useful PC software that we will use in the course that you can optionally install on your own computer. This includes: the Notepad++ text editor, the tcc Tiny C and Pelles C compilers, the FreeMat Matlab-compatible numerical analysis software, the Audacity waveform editor and the LibreOffice and FreePDF programs mentioned above. Most of these are also available, or have equivalents, for Mac and Linux systems.

Plagiarism

Plagiarism means taking credit for the work of someone else. Read the BCIT Student Guide to Plagiarism if you are not clear on the topic. Briefly, do not copy or paraphrase *anything* without attributing the source.

Exams, labs and assignments are to be done individually unless otherwise indicated. 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.").

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 asked, help your classmates find their own solutions, do not share your solution with them.