ELEC 342 Discrete-Time Signals and Systems
Laboratory Guidelines
Fall, 2024

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Lab Description:
ELEC342 lab includes **four** experiments (labs) and the final lab test, and all experiments are designed based-on MATLAB **and run in-person** at GCS computer lab. **<u>The lab attendance is mandatory,</u> students should attend all the scheduled sections.**

All labs are supervised by the lab demonstrators (TA), who will be helping the students during the lab session. He/she will also grade the lab reports and the test.

Lab Manuals:
The lab manual includes a set of 5 PDF files and some data file, all are available at online.

Grading Scheme:
The lab work is worth 20% of the course grade, 3.5 points for each experiment and 6 points for the lab test. There will be <u>four compulsory experiments</u> during the term. Students must attend all 5 experiments and the lab test. Students need to do and prepare their reports individually.

1	**Participation:** Attendance and Lab Performance [Good performance is an indication of Being well- prepared for the experiment to be done]	5%
2	**Organization and Presentation:** Coherence, Proper Tabulation, Calculations, Simulations, Computer-drawn or neatly hand drawn graphs	15%
3	**Discussion and Summary:** Technical discussion of obtained results, error calculations, experimental / theoretical correlations, Meaningful conclusion (summary of what was learnt etc.)	80%

Lab Schedule:
The ELEC342 lab is a bi-weekly based for the fall term.
- An experiment will take 2h45 and the lab test will be 1h.
- The first lab will start the week of Sep 18 – 30, 2023.
- The lab test is scheduled during Nov 9 to Dec 2 for a lab test.

Read the detailed schedule on ELEC342 Lab 2242 Moodle site.

Lab Exemptions:
THERE ARE <u>NO</u> LAB EXEMPTIONS. If you are repeating the course for any reason, you are required to redo all the lab experiments, to obtain new data, to write new lab reports (including the prelab), and to take and pass the lab test. You are NOT permitted to resubmit lab results or lab reports from a previous semester."

Lab Procedure
All of ELEC342 experiments and the test are scheduled in GCS computer lab and run in-person. You should attend all the scheduled sections. If you missed a lab, it is not allowed to submit a report. You shall contact your

TA and the lab coordinator for a makeup.

Report

Individual lab report is due before the consequent lab starts. **No late submissions will be accepted. If you do not submit the report on-time, you will get 0 grade for it.** You will receive your graded report in two weeks from the submission date. For example, Lab#1 report is due right before you login to Lab#2; you will receive it graded before the start of Lab#3, and you will submit the report for Lab#2 also before Lab#3.

- The labs will be performed individually.
- The reports are to be unique and individual and consist entirely of original work.
- The report shall be submitted through lab Moodle site before next experiment starts.

Report format

Include the following in your lab report:

1. Cover page - Include the following:

   - Name and ID number
   - Course number and lab Section Date performed
   - Due Date
   - Lab Instructor Name

2. Objectives - State in your **own words** the objectives of the experiment.
3. Theory - Briefly present relevant theory for the experiment.
4. Tasks/Results/Discussion
   Present the tasks completed in the experiments along with the results of the actions took to complete the task. Complement the task presentation with discussion and observations.
5. Questions - answer the questions posed in the handouts or by the lab instructor.
6. Conclusions
   State what was achieved in the lab and contrast with the experiment objectives. Conclude on the salient portions of the lab. Do not write conclusions of the form:

   "This was an excellent experiment for me to learn how to use MATLAB and allowed me to have a better understanding of the analog and digital filter techniques in MATLAB... I found this lab extremely long; however, it was a rewarding experience in the end. To conclude, I really enjoyed this lab and it was an excellent learning opportunity."

   A proper conclusion would be of the following manner:

   "This lab explores the use of the MATLAB FDA tool to design both analog and digital filters. Simulink was used to import an audio file and the differences between up and down sampling were observed. The sample was also filtered, and the effects of the filtering were noted."

7. Appendix
   Include in the appendix your MATLAB code. The MATLAB programs are to be demonstrated to the lab TA and a printout of your MATLAB code and/or results is to be **signed** by the lab TA. Your lab TA will provide more specific details with regards to the demonstration and signing of the printouts during each lab session. Your lab instructor will also provide details concerning the

submission of the written lab report.

Text matching: Ouriginal (formerly *Urkund*)

For submitted work, in this course we will be using the software *Ouriginal* (formerly Urkund). It uses text matching technology as a method to uphold the University's high academic integrity standards to detect any potential plagiarism. Urkund is integrated into Moodle. For the assignments set up to use Urkund, the software will review your paper when you upload it to Moodle. To learn more about Urkund's privacy policy please review its [Privacy Policy](#).

Lab test:

ELEC342 lab test is conducted in-person in scheduled GCS computer lab:

- Material allowed: Only the lab manuals and your own lab reports.
- Duration: 1 hour (45 Minutes for test, 15 minutes for file upload to Moodle Lab page and a demo)
- Tools: Matlab
- Date and time: Check the schedule on lab Moodle site.
- Grade: 5 points for the test

Policy on Academic Integrity:
- All submitted work is expected to be original.
- **Any** incident of academic misconduct will be dealt with according to the Academic Calendar. No exceptions. Refer to the calendar section 17.10. for further details.
- A quick summary of what constitutes plagiarism and what are the consequences can be found at: http://www.concordia.ca/info/currentstudents/academicintegrity

Expectation of originality forms:
Students must abide by the items listed on the Expectation of Originality form.
1. Each student should submit a signed copy of the Expectations of Originality Form at the beginning of the semester to the instructor; the signature must be hand-written and not electronic.
2. The student should write and sign on the front page of each lab report **"I certify that this submission is my original work and meets the Faculty's Expectations of Originality"**, with his or her signature, I.D. #, and the date.

To sign a document, sign on a paper, scan your real-world signature and save as an image, and then add your signature to your PDF file before submission. PDF readers easily allow to add a signature (as an image) to documents.