ECE260 Course Outline (Summer 2026)

IMPORTANT NOTE: This course outline is **incomplete**, as it only includes the content that is directly provided by the instructor. The content provided by the university/faculty/department is not included. **Please refer to the UVic course outline website for the complete course outline.**

Specification of Dates/Times

Unless explicitly indicated otherwise, all dates and times are specified using local time in Victoria, BC, Canada (i.e., Pacific Time), and times are expressed using 24-hour format (e.g., 09:00 is 9 o'clock in the morning and 21:00 is 9 o'clock at night). This statement applies in totality to all written and verbal communication for the course, including but not limited to: assignment submission deadlines, the dates/times for exams, lecture and tutorial times, office hours, and any dates/times specified on handouts, the course website, and the Brightspace site.

Instructor

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Office Hours: The schedule for office hours is determined by a poll taken at the start of the term, and subsequently posted on the course website. For more details, refer to the section of this document titled "Office Hours".

Course Website

Home Page: https://www.ece.uvic.ca/~mdadams/courses/ece260
Username: ece260-202605
Password: as announced on the Brightspace site at https://bright.uvic.ca/d2l/le/news/481540/438373/view

The course website is the **primary online source of information** for the course.

Brightspace Site

Home Page: https://bright.uvic.ca/d2l/home/481540

Although the course has a Brightspace site, the primary online source of information for the course is the course website (introduced above), **not the Brightspace site**. The Brightspace site is mainly intended to be used for:

1. posting important course announcements and other information, such as the username and password to be used for accessing password-protected areas of the course website;
2. submitting (and grading) assignments; and
3. providing students with a means to review their grades in the course.

Students are responsible for reading all announcements posted on the Brightspace site in a timely fashion. **Students should enable notifications (via email) for new announcements and other events on the Brightspace site** in order to stay abreast with what is happening in the course.

Office Hours

Office-hour sessions will be held by the instructor in order to provide extra help with the course materials as well as discuss other course-related matters with students. These sessions will be offered **online only**.

For more information regarding office-hour sessions, including the schedule for these sessions, refer to the section of the course website titled "Office Hours". (For details on how to attend online meetings, see the section of this document titled "Online Meetings".)

Teaching Assistant (TA) Information

The tutorial and marker teaching assistants (TAs) are listed on the course website along with their contact information. In particular, this information can be found in the section of the course website titled "Teaching Assistants".

Course Prerequisites and Corequisites

- Complete all of the following
  - Complete all of:
    - MATH101 - Calculus II (1.5)
  - Complete 1 of the following
    - Complete all of:
      - MATH110 - Matrix Algebra for Engineers (1.5)
    - Completed or concurrently enrolled in all of:
      - MATH211 - Matrix Algebra I (1.5)

Course Description

This course provides a basic introduction to continuous-time signals and systems. The course is intended to teach students mathematical techniques for the design and analysis of systems.

Learning Outcomes

Upon completion of the course, a student should be able to:

1. define various properties of systems (such as linearity, time invariance, causality, memory, invertibility, and BIBO stability) and determine if a system has each of these properties;
2. identify basic properties of convolution and compute the convolution of functions;
3. explain the significance of convolution in the context of LTI systems;
4. state the basic properties of the Fourier and Laplace transforms and use these properties in problem solving;
5. compute forward/inverse Fourier and Laplace transforms of functions and find Fourier series representations of periodic functions;
6. use the Fourier transform and/or Laplace transform to design and analyze simple systems (e.g., filtering/equalization systems, amplitude modulation systems, and feedback control systems);
7. use the Laplace transform to solve differential equations;
8. demonstrate competency in working with both time- and frequency-domain representations of signals and systems;
9. explain the relationships amongst the various representations of LTI systems (e.g., differential equation, frequency response, transfer function, impulse response);
10. identify basic types of frequency-selective filters (i.e., lowpass, highpass, and bandpass);
11. explain the fundamentals of sampling and the implications of the sampling theorem; and
12. use MATLAB effectively for problem solving.

Course Topics

The topics covered by the course are as follows:

1. Signals and systems (6 hours):
    - basic definitions/concepts
    - review of complex analysis
    - signal properties
    - system properties
    - basic signal transformations
    - elementary signals
    - signal representations using elementary signals
2. Linear time-invariant (LTI) systems (6 hours):
    - convolution
    - properties of convolution
    - representation of signals using impulses
    - impulse response and convolution representation of LTI systems
    - properties of LTI systems
    - response of LTI systems to complex exponential signals
3. Fourier series (5 hours):

- Fourier series definition
- finding Fourier series representations of signals
- convergence of Fourier series
- properties of Fourier series
- Fourier series and frequency spectra
- Fourier series and LTI systems

4. Fourier transform (8 hours):
   - Fourier transform definition
   - convergence of Fourier transform
   - Fourier transform properties
   - Fourier transform of periodic signals
   - frequency spectra of signals
   - frequency response of LTI systems
   - applications
5. Laplace transform (8 hours):
   - Laplace transform definition
   - relationship between Laplace transform and Fourier transform
   - region of convergence
   - finding the inverse Laplace transform
   - properties of the Laplace transform
   - analysis of systems using the Laplace transform
   - solving differential equations using the unilateral Laplace transform

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Textbooks and Other Materials

The following references are **required** for the course:

1. Textbook
   - Michael D. Adams, Signals and Systems, Edition 6.0, University of Victoria, Victoria, BC, Canada, Dec. 2024, ISBN 978-1-990707-07-0 (PDF).
2. Lecture Slides
   - Michael D. Adams, Lecture Slides for Signals and Systems, Edition 6.0, University of Victoria, Victoria, BC, Canada, Dec. 2024, ISBN 978-1-990707-09-4 (PDF).

The above textbook has a corresponding website, whose URL is:

- https://www.ece.uvic.ca/~mdadams/sigsysbook

The textbook and lecture slides can be obtained in PDF format (free of charge) from this website.

Course Delivery

General Teaching Strategy

This course employs a **flipped classroom** approach to teaching. With this approach, students are first introduced to the course materials through prerecorded video lectures prepared by the instructor. Then, students are given the opportunity to engage with the course materials in interactive lecture sessions held by the instructor during the lecture time slots. For more details on how the lecture sessions will be run, see the section of this document titled “Lecture Sessions”.

Video Lectures

The core instructional content for the course will be delivered in the form of prerecorded video lectures. Information about these video lectures can be found in the section of the course website titled "Video Lectures".

Students are responsible for all material covered in the prerecorded video lectures.

Lecture Sessions

Time/Location: The time/location of the lecture sessions is given in the information provided at the beginning of this document.

The lecture time slots will be used by the instructor to hold interactive lecture sessions that are intended to assist students in learning the course materials more effectively. The lecture sessions will employ one of the following two formats:

1. face-to-face with provisions for online attendance
2. face-to-face only (i.e., no provisions for online attendance)

If the instructor has the hardware and software necessary in order to accommodate online attendance, the first of these formats will be used. Otherwise, the second format will be employed as a fallback. (If online attendance is supported, details on how to attend online meetings can be found in the section of this document titled "Online Meetings".) How exactly the lecture sessions will be utilized will depend on the needs, interests, and preferences of the students. Some of potential uses of these sessions include (but are not limited to):

- providing a brief summary of course materials covered;
- discussing aspects of the course materials that are typically more problematic for students and addressing common misunderstandings;
- working through additional examples;
- answering student questions about the course materials; and
- giving software demonstrations to illustrate practical applications of the theory covered in the course.

The first lecture session will be used to provide an overview of the course and address many administrative matters. **All students are required to attend this first lecture session.**

Since the core course content is delivered through prerecorded video lectures, students are **not required** to attend the lecture sessions, **except when explicitly indicated by the instructor**. This said, however, each student is **strongly encouraged** to attend at least some of the lecture sessions, as this will very likely lead to an improved understanding of the course materials.

Normally, **the lecture sessions will not be recorded**. There are several important reasons for this:

- the main objective of the lecture sessions is to provide an opportunity for the instructor and students to engage with one another interactively in real time, and recording the lecture sessions would run completely contrary to this objective;
- recording any interactions with students raises many privacy concerns which are best avoided whenever possible;
- some students are much less likely to participate (or may not participate at all) in lecture sessions if they are being recorded; and
- all of the core instructional content for the course is already available in video format so none of the material covered in the lecture sessions is essential for the course.

For more information on lecture sessions, see the section of the course website titled "Lecture Sessions".

Tutorial Sessions

Time/Location: The time/location of tutorial sessions is given in the information provided at the beginning of this document.

The tutorial time slots will be used by the tutorial TAs to hold sessions in order to help students with course materials. These sessions are to be held **face-to-face**. A TA may also allow for online (in addition to face-to-face) attendance of tutorial sessions, if feasible to do so.

For more information on tutorial sessions, see the section of the course website titled "Tutorial Sessions". (For details on how to attend online meetings, see the section of this document titled "Online Meetings".)

Learning and Teaching Technologies

Computer and Software Requirements

Each student is required to have access to a computer with the following software installed:

- Zoom. The Zoom software is required for participating in any online meetings held in the course.
- MATLAB. Students will need to use the MATLAB software in order to complete some assignments.

For additional information on how to obtain the MATLAB software, refer to the section of the course website titled "MATLAB".

AI Position Statement

Students may use AI tools for the purposes of assisting in their understanding of course materials. Students, however, may not use AI tools to complete work that will be submitted for grading.

Assessment

Weight (%)	Component
10	Assignments (†)
90	Midterm Exams (♣, ‡, ♠)

Course-Materials Bug-Bounty Program Bonus (★): 1% (of course grade)

(†) Note: The assignments are **equally weighted**. The submission deadlines for assignments will be posted on the course website and/or Brightspace site. **Late assignments will not be accepted and will receive a grade of zero.**

(♣) Note: All exams in the course are written **face-to-face**. All exams are **closed book**. Calculators are not permitted in exams.

(‡) Note: There are five midterm exams. The midterm exams are **not equally weighted**. The relative weights of the midterm exams are as follows:

- Midterm Exam 1: 5/24
- Midterm Exam 2: 5/24
- Midterm Exam 3: 5/24
- Midterm Exam 4: 5/24
- Midterm Exam 5: 4/24

All midterm exams are scheduled during the lecture time slots. The dates of the midterm exams are as follows:

- Midterm Exam 1: (Wed) May 27, 2026
- Midterm Exam 2: (Wed) Jun 10, 2026
- Midterm Exam 3: (Wed) Jun 24, 2026
- Midterm Exam 4: (Tue) Jul 14, 2026
- Midterm Exam 5: (Fri) Jul 31, 2026

(♠) Note: A student will be deemed not to have completed the requirements of the course and **will receive an N grade** if:

1. the student does not write at least half (i.e., 3 of 5) of the exams in the course; **or**
2. the student does not write at least one of the last two exams (i.e., Exams 4 and 5) in the course.

If a student is deemed to have completed the course requirements and has been excused by the instructor (in writing) from one or more exams, the missed exams are handled by amending the weights of the exams used in course grade calculation. For the precise details of how this reweighting is performed (including sample calculations) refer to the document on the course website titled "Policy on Missed Exams".

(★) Note: See the handout titled "Course-Materials Bug-Bounty Program" for more details.

Notes on Various Course Policies

Final Grade and GPA Calculation

The final grade obtained from the assessment scheme for the purpose of GPA calculation will be based on the percentage-to-grade point conversion table as listed in the Undergraduate Calendar.

Grading Appeals

If a student would like to appeal the grade assigned for a particular graded item in the course (such as a midterm exam or an assignment), the student is required to do so **in a timely manner**. Unless an alternative deadline is explicitly stated (in writing) by the instructor, an appeal of a grade must be made **within 10 calendar days** of the grade being released to the student. An appeal must be made **in writing**. The reconsideration of a grade may result in the grade being raised, lowered, or remaining unchanged.

Requests for Academic Concessions

Any request for an academic concession must be made **in writing** and **in a timely manner**. If an exam is missed due to circumstances that may warrant an academic concession, the student must notify the instructor of this (in writing) **within 10 calendar days** of the exam unless physically unable to due so (e.g., due to hospitalization).

Supplemental Exams

There will be **no supplemental examination** for this course.

Plagiarism Detection Tools

Plagiarism detection software may be used to aid the instructor and/or teaching assistants in the review and grading of some or all student work.

Email Correspondence

All email to the instructor should be sent from a **UVic email account**. Due the University's increasingly aggressive spam filtering, the instructor cannot guarantee that he will receive any email sent from non-UVic email accounts.

Online Meetings

Some meetings in the course may be held online. For details on how to attend online meetings, see the section of the course website titled "Online Meetings".

Course Announcements and Other Important Course Information

Important course announcements are often sent to students via email. Therefore, **students are responsible for checking their email regularly**.

Many important documents for the course are available from the course website. Some of these documents include the following:

- Online Meetings Handout (See the section titled "Online Meetings")
- Video-Lecture Information Package (See the section titled "Video Lectures")
- Video-Lecture Schedule (See the section titled "Video Lecture Schedule (on Main Page)" and the document titled "Video Lecture Schedule")
- Assignments Handout (See the section titled "Assignments")
- Course-Materials Bug-Bounty Program Handout (See the section titled "Course-Materials Bug-Bounty Program")
- Course-Materials Errata Handout (See the section titled "Course-Materials Bug-Bounty Program")
- Optional Textbook Handout (See the section titled "Optional Texts/Materials")
