

COURSE OUTLINE

STAT 260: Introduction to Probability and Statistics I

Sections A01 (CRN 23160) & A02 (CRN 23161), Spring 2023

General Course Information

Pre-requisites or Co-requisites: Math 101 or Math 208.

Instructor: Dr. Michelle Edwards **Email:** edwardsm@uvic.ca

Office David Turpin Building A437

Lectures

A01: TWF 10:30-11:20pm (PT) in DTB A110.

A02: TWF 1:30-2:20pm (PT) in ELL 167.

Welcome! We acknowledge and respect the lək̓ʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt, and WSÁNEĆ peoples whose historical relationships with the land continue to this day.

Resources

Office Hours: See your course Brightspace page for more info.

Brightspace Discussion Forum: Your course Brightspace page has a discussion forum where you can ask questions about the course material. Outside of office hours and lecture hours please use this as your first stop to ask technical questions about the course material or logistical questions about the course. The forum will be open for you to answer questions posted by other students as well.

Email: Your instructor can be reached via email, however emails should be used primarily for administrative purposes/questions (e.g. discussing your grades or any needed accommodations due to personal reasons). For technical questions about the course material or homework, discussions in or after class, at office hours, or in posts on the Brightspace discussion forum are the most effective.

Math & Stats Assistance Centre: The Mathematics & Statistics Assistance Centre is a large space where students can go to work, on their own or in groups, and to discuss math & stats problems. The Centre is staffed with talented Teaching Assistants who are happy to discuss primarily first and second year course material with you. Please see <http://www.uvic.ca/msac> for more information.



Learning Objectives

- (i) To develop an understanding of the reasoning by which findings from sample data can be extended to general cases,
- (ii) To develop familiarity with some basic statistical methods,
- (iii) To emphasize examples and applications from engineering and the sciences.

Course Material and Online Resources

Course Website: Our Stat 260 course website can be found on Brightspace (bright.uvic.ca).

Textbooks: *Essentials of Probability & Statistics for Engineers & Scientists* by Walpole, Myers, Myers, & Ye, 2011. E-Text or physical edition (ISBN 9780321783738).

Introduction to Probability and Statistics by Tim Swartz. PDF posted to course Brightspace page.

Calculator: The use of a calculator is permitted on examinations in this course. The only acceptable calculator for use in all courses offered by the Math & Stats Department are Sharp Calculators with a model number starting with “EL-510R”, for example, the Sharp EL-510R, Sharp EL-510RN or EL-510RNB. This model may be purchased at the UVic Bookstore or elsewhere for about \$15.

Software: You will need to use a computer and the statistical software R for some of the assignments throughout the term. R can be downloaded for free from <http://www.r-project.org/>. While it is not necessary, you are encouraged to use RStudio which is a user interface to R that can be downloaded for free from <https://rstudio.com/>. If you are unable to download software on your computer, an alternate option is to use R Studio Cloud <https://rstudio.cloud/>, which will run R Studio in a web browser. There is a free option for this service which will cover the amount of computing needed for our assignments. The R computing software is also available on computers in the campus computer labs which use Windows-based operating systems.

Computer Facilities: Locations and operating hours of on campus Computer Facilities are available here <http://www.uvic.ca/systems/facilities>.

Specific Topics

Introduction and Descriptive Statistics, Probability, Discrete Random Variables and Probability Distributions, Continuous Random Variables and Probability Distributions, Joint Probability Distributions and Random Samples, Estimation and Hypothesis Tests based on a Single Sample, Estimation and Hypothesis Tests based on Two Samples.



Evaluation and Grading

Your final percentage grade will be computed according to the following scheme. Percentage scores correspond to letter grades according to the university-wide standard table.

Item	Date(s)	Weight
R Assignments	posted on Crowdmark	6%
Online Assignments	posted on Brightspace	6%
Written Homework Assignments (best 6 of 8)	posted on Crowdmark	12%
Test 1	Friday February 10th	10%
Test 2	Friday March 10th	10%
Test 3	Tuesday April 4th	10%
Final Exam	TBD	46%

Written Assignments: Throughout the semester you will be given 8 written assignments. Each assignment will be short. These assignments are meant to serve as encouragement for you to keep up with the material covered in class each week, and to give you feedback on the style and content of your written work before you write each term test. Assistance Centre tutors will not help with specific written homework questions but they can help you with the topics covered in each homework assignment. Your lowest two written assignment scores will be dropped, and missed assignments (due to illness or other extenuating circumstances) will count as a dropped score. It is not necessary to provide documentation for missed assignments unless you will miss three or more, in which case you should contact your instructor immediately. These assignments will be due Fridays at 11:59pm (PT).

Online Assignments: There are three online assignments that are to be submitted for marks. These assignments will be completed directly on the course Brightspace page. They are designed to serve as review for your term tests. You may complete these assignments multiple times and your highest scores will be used for grade evaluation, however your attempts must be completed before the published deadlines. You will not be able to view the questions for review purposes if you do not submit an attempt.

R Assignments: Step-by-step instructions for each R Assignment will be included with each assignment. The questions and needed data sets for the R Assignments will be posted on the course Crowdmark page, and will differ from those used in previous semesters.

There are three R Assignments that you will submit for marks. These assignments are loosely related to the lecture material and are designed more to supplement the lecture material and also to introduce you to the statistical software. Each R assignment will have equal weight (2% each). Interpretation of output similar to that found on the R assignments is fair game for the final exam.

Term Tests: The tentative schedule for the exams and their weights towards the final grade are given in the table above. Term Tests will be written during your lecture period. Your tests will be graded on the Crowdmark digital platform and feedback will be distributed there.



You are welcome to collect the paper copy of your tests at any point in the semester, please contact your instructor to do so. Any term work that is uncollected by the end of the final exam period will be put into confidential shredding.

Final Examination: There will be a final exam which covers lecture Sets 1 to 31. The date of the exam will be determined by Records Services. Off-schedule final examinations (i.e., deferred examinations) are given only in accordance with the university policy as outlined in the University Calendar. If you are unable to write a final examination due to illness, accident or family affliction, please refer to the webpages under the Undergraduate Academic Regulations heading regarding Examinations and Academic Concessions for detailed instructions how to proceed: <https://www.uvic.ca/calendar/future/undergrad/index.php#/policies>. Students are strongly advised not to make plans during the final examination period as special arrangements will not be made for examinations that conflict with such plans. Students who do not write the final exam will be given a grade of **N**, a failing grade which indicates failure arose from not completing one or more essential components of the course. That is, you must write the final exam in order to pass the course. A student who receives a grade of **N** can apply for an academic concession as described in the University Calendar.

Supplemental Examinations: The Department of Mathematics and Statistics does not award 'E' grades or offer Supplemental Examinations in any of its courses.

Course Policies and Ethics

In addition to the following, see the *University and Departmental Policies Attachment* and the *Information for Students Attachment* on Brightspace.

Attendance: Regular attendance in lectures is expected, however please do not attend the in person lecture if you are not feeling well. If you miss a lecture for any reason you are responsible for learning the material that was covered in your absence. Important announcements mentioned during lectures will be posted in the Announcements section of your course Brightspace page. You should take notes during lecture; they will not be provided for you. There are no lectures during the holidays listed at the end of this document.

Academic Integrity: Violations of the University of Victoria Policy on Academic Integrity will not be tolerated. The Department will be closely monitoring for signs of plagiarism, use of unauthorized resources, etc., and will seek the strongest available academic sanctions in these cases. All cases will be referred to the Dean and the Registrar, and may lead to expulsion from the University of Victoria.

- **Assignments:** Discussing homework to be submitted for marks with classmates is a useful and mathematically healthy practice. The work that is submitted must be written independently, be in your own words and formatting, and reflect your understanding. For instance, copying answers from another person or from the internet is a clear violation of Academic Integrity and will be strictly enforced. You may not post the homework problems on the internet outside of our Brightspace forum.



- **Exams:** Any form of collaboration or communication during exams between persons within or outside the class is not permitted. Use of any aids other than those specifically permitted on an exam is forbidden. You may not post the exam problems on the internet. By submitting your exam or homework answers you agree that you have read and understood the Policy on Academic Integrity, and that you have not in any way violated the Policy in constructing or presenting your solutions.

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Late Work: Please see your first assignment which outlines the details of how late assignment submissions will be handled. Late submissions beyond the assignment policy may not be accepted as they postpone the publication of solution keys and delay our ability to grade assignments and return marks, in turn this affects the entire class.

Missing Work: If you miss a written assignment for any reason, keep in mind that your lowest two assignments will be dropped; your missed assignment will be one that does not count towards your grade. If you miss more than two written assignments due to an excused absence, please contact your instructor to discuss your options.

If you miss a Term Test due to illness, accident, or family affliction, you should notify your instructor as soon as possible and provide a written request to be excused. In the case of one or two missed term tests, the weight of the missed test(s) will be distributed between the completed term test(s) and the final exam: if one test is missed, the completed term tests will each be worth 13% and the final exam 50%; if two tests are missed, the completed term test will be worth 16% and the final exam 60%.

If you miss two Term Tests, you will need to meet with your instructor to discuss your options: passing the final exam is likely to be challenging for students who have missed that much material. A student who misses all three Term Tests will receive a failing grade in the course. If you miss a Term Test and the absence is not excused by your instructor, you will receive a mark of zero.

Students must write the Term Test scheduled for the section they are registered in. Tests will not be scheduled for alternate dates or formats, and make-up tests will not be created for missed or low-scoring tests.

There will be no extra assignments or tests given to make up for missed or low-scoring coursework.

If you will miss a piece of term work, if at all possible please contact your instructor before it is due to be completed. In cases where this is not possible, please contact your instructor as soon as you are able and please explain the delay. If you complete a subsequent piece of course work without having requested a concession for what was missed, then a concession for the missed work will not be granted. Also, note that the time limit for questioning an assigned grade (see below) implies a time limit for requesting a concession for missed work - you would be questioning the assigned grade of 0.



Mark Disputes: Contact your instructor via email for any mark disputes. Arithmetic and recording errors can be fixed at any point before final course grades have been submitted. In the case of disputes regarding the grading, submit your argument via email to your instructor within 1 week after the item feedback has been posted. After this time, the recorded mark on Brightspace will be considered as final. In the case of technical difficulties while uploading work, the student must contact their instructor immediately.

Important Dates

Classes begin	Mon January 9, 2023
Drop (100% Fee Reduction)	Sun January 22, 2023
Last Day to Add Courses	Wed January 25, 2023
Drop (50% Fee Reduction)	Sun February 12, 2023
Family Day (no classes)	Mon February 20, 2023
Reading Break (no classes)	Mon February 20 - Fri February 24, 2023
Academic Drop Date	Tues February 28, 2023
Last day of classes	Thurs April 6, 2023
Good Friday (university closed)	Fri April 7th, 2023
Easter Monday (university closed)	Mon April 10th, 2023
Examination period	Tues April 11th - Wed April 26, 2023

