

# COURSE SYLLABUS



COURSE TITLE: STAT-218: Intro to Probability and Statistics 1

CLASS SECTION: 001

TERM: Fall 2021

COURSE CREDITS: 4

DELIVERY METHOD(S): Lecture

Camosun College campuses are located on the traditional territories of the Lək'wəŋən and W̱SÁNEĆ peoples. We acknowledge their welcome and graciousness to the students who seek knowledge here.

Learn more about Camosun's [Territorial Acknowledgement](#).

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For COVID-19 information please visit <https://legacy.camosun.ca/covid19/index.html>

*Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable explanation in advance, you will be removed from the course and the space offered to the next waitlisted student.*

## INSTRUCTOR DETAILS

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NAME: Bree Wilton

EMAIL: [wiltonb@camosun.bc.ca](mailto:wiltonb@camosun.bc.ca)

OFFICE: E246

HOURS: Mon-Wed, Fri and every other Thursday 9:30 – 10:20

*As your course instructor, I endeavour to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me. Camosun College is committed to identifying and removing institutional and social barriers that prevent access and impede success.*

## CALENDAR DESCRIPTION

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Examples from a variety of disciplines will be used to introduce the mathematical foundations of statistical inference. Topics: descriptive statistics; elementary probability theory, random variables, discrete and continuous probability distributions, expectations, joint, marginal and conditional distributions; linear functions of random variables; sampling distribution; point and interval estimation; significance testing.

### PREREQUISITE(S):

One of:

- C in MATH 100
- C in MATH 108

### CO-REQUISITE(S):

Not Applicable

### EXCLUSION(S):

Not Applicable

## COURSE LEARNING OUTCOMES / OBJECTIVES

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Upon completion of this course a student will be able to:

1. Compute and interpret descriptive statistics.
2. Compute and interpret probability and conditional probability.
3. Compute probability, expectation and variance of a single discrete random variable, or a single continuous random variable. Perform calculations involving Binomial, Poisson, normal, or exponential probability distributions.
4. Perform calculations involving joint probability distributions of two discrete random variables, or random samples.
5. Derive and compute maximum likelihood estimates.
6. Compute and interpret interval estimate for the population mean, population proportion, and determine sample size.
7. Compute and interpret interval estimate for a difference of two means.
8. Test hypotheses about a mean, a proportion, and the difference of two means.

## REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

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1. Textbook: Probability and Statistics for Engineers and the Sciences by Devore, any edition 5<sup>th</sup> and up. The 9<sup>th</sup> edition is sold in the Camosun Bookstore at Lansdowne
2. Lab Tutorials: Available on D2L.
3. Sharp EL-531 Scientific Calculator. No other calculators are allowed for tests and the final exam.

## COURSE SCHEDULE, TOPICS, AND ASSOCIATED PREPARATION / ACTIVITY / EVALUATION

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The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

WEEK	TOPIC: Sections from the Textbook	DELIVERABLES
1	2.1, 2.2	
2	2.3 -2.5, 1.1, 1.2                      Lab 1 session	Q1 Tuesday
3	1.2 – 1.4	Q2 Tuesday Lab 1 due Wednesday
4	3.1 – 3.3	Q3 Tuesday
5	3.4, 3.6, 4.1	<b>Test 1 Monday Oct 4</b>

WEEK	TOPIC: Sections from the Textbook	DELIVERABLES
6	4.2 – 4.3 Lab 2 session	Q4 Tuesday
7	4.3, 4.4, 4.6, 5.1	Q5 Tuesday Lab 2 due Wednesday
8	5.2, 5.3 Lab 3 session	<b>Test 2 Tuesday Oct 26</b>
9	5.3 -5.5, 6.1	Q6 Tuesday Lab 3 due Wednesday
10	6.2, 7.1 Lab 4 session	Q7 Tuesday
11	7.1 – 7.3	<b>Test 3 Monday Nov 15</b> Lab 4 due Wednesday
12	8.1 – 8.3 Lab 5 session	Q8 Tuesday
13	8.4, 9.1, 9.2	Q9 Tuesday Lab 5 due Wednesday
14	Review	<b>Test 4 Tuesday Dec 7</b>

Students registered with the Centre for Accessible Learning (CAL) who complete quizzes, tests, and exams with academic accommodations have booking procedures and deadlines with CAL where advanced noticed is required. Deadlines scan be reviewed on the [CAL exams page](http://camosun.ca/services/accessible-learning/exams.html). <http://camosun.ca/services/accessible-learning/exams.html>

## EVALUATION OF LEARNING

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DESCRIPTION	WEIGHTING
Quizzes	10%
Lab Assignments	10%
Midterms (4)	30%
Lab Final	10%
Cumulative Final Exam	40%
<b>TOTAL</b>	<b>100%</b>

If you have a concern about a grade you have received for an evaluation, please come and see me as soon as possible. Refer to the [Grade Review and Appeals](http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf) policy for more information. <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf>

## COURSE GUIDELINES & EXPECTATIONS

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**Quizzes:** On specified Tuesdays, during the first 10 minutes of class, there will be a question based on the previous lectures. These in-class questions will count for 10% of your grade. There will be a total of 9 quizzes and you may drop your lowest score. ***Students arriving late will not receive extra time.*** In-class questions will occur on: Sept 14, 21, 28, Oct 12, 19, Nov 2, 9, 23, 30

**R Labs:** This course includes R lab sessions designed to familiarize students with the use of a statistical software to perform data analysis and the procedure of reporting data analysis results. *You will need the lab tutorial for each lab.* The required lab tutorial is available on D2L. A lab assignment follows each lab session. Lab assignments are due by **4:00pm** on the **Wednesday** following each lab session. Late labs will be accepted with a penalty of 20% per day until the on-time labs have been handed back, after which I will no longer accept them.

**Calculator policy:** A Sharp EL-531 scientific calculator is required. This is the *only* calculator that will be allowed for tests and the final examination. This calculator is available at the Lansdowne Bookstore, and some other stores.

**Homework:** The homework for this course will include suggested exercises posted on D2L and R lab assignments. *In order to get a full understanding of the course materials, which usually leads to a good grade, it is necessary to mindfully complete all sets of homework. It is essential to review notes and do homework each week and to keep up consistently. Cramming does not work for this course.*

### Attendance

*Attendance is necessary.* Showing up to classes is the easiest and most important thing you can do to help you succeed the course. If you feel yourself falling behind at any point during the term, then please do not hesitate to come to speak to me.

### Desire2Learn (D2L)

This class has the assistance of D2L, an online course management system. Most course related materials and announcements will be available on D2L. It is your responsibility to subscribe to the *notifications on D2L* or check it regularly.

**Missed Test Policy:** Students are expected to make every reasonable effort to write the test at the scheduled time. **A missed test usually counts as a 0**, so if for any reason it appears that you may miss a test,

- **before the test**, talk with the instructor about missing the test, unless an unforeseen emergency makes this impossible, in which case leave a comprehensive message.
- assuming that you qualify for a missed test (for instance, medical or compassionate leave), the weight of the test will be moved to the final exam. There will not be any rewrites of tests.

*Please inquire if you have any questions or concerns about your particular situation.*

## SCHOOL OR DEPARTMENTAL INFORMATION

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**Math Lab:** Math lab E224 is staffed with math tutors available for free help. It is a great idea to do your homework there and get help whenever needed

## STUDENT RESPONSIBILITY

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Enrolment at Camosun assumes that the student will become a responsible member of the College community. As such, each student will display a positive work ethic, assist in the preservation of College property, and assume responsibility for their education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting expectations concerning attendance, assignments, deadlines, and appointments.

## SUPPORTS AND SERVICES FOR STUDENTS

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Camosun College offers a number of services to help you succeed in and out of the classroom. For a detailed overview of the supports and services visit <http://camosun.ca/students/>.

Academic Advising	<a href="http://camosun.ca/advising">http://camosun.ca/advising</a>
Accessible Learning	<a href="http://camosun.ca/accessible-learning">http://camosun.ca/accessible-learning</a>
Counselling	<a href="http://camosun.ca/counselling">http://camosun.ca/counselling</a>
Career Services	<a href="http://camosun.ca/coop">http://camosun.ca/coop</a>
Financial Aid and Awards	<a href="http://camosun.ca/financialaid">http://camosun.ca/financialaid</a>
Help Centres (Math/English/Science)	<a href="http://camosun.ca/help-centres">http://camosun.ca/help-centres</a>
Indigenous Student Support	<a href="http://camosun.ca/indigenous">http://camosun.ca/indigenous</a>
International Student Support	<a href="http://camosun.ca/international/">http://camosun.ca/international/</a>
Learning Skills	<a href="http://camosun.ca/learningskills">http://camosun.ca/learningskills</a>
Library	<a href="http://camosun.ca/services/library/">http://camosun.ca/services/library/</a>
Office of Student Support	<a href="http://camosun.ca/oss">http://camosun.ca/oss</a>
Ombudsperson	<a href="http://camosun.ca/ombuds">http://camosun.ca/ombuds</a>
Registration	<a href="http://camosun.ca/registration">http://camosun.ca/registration</a>
Technology Support	<a href="http://camosun.ca/its">http://camosun.ca/its</a>
Writing Centre	<a href="http://camosun.ca/writing-centre">http://camosun.ca/writing-centre</a>

**If you have a mental health concern**, please contact Counselling to arrange an appointment as soon as possible. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, please contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.

### Academic Accommodations for Students with Disabilities

The College is committed to providing appropriate and reasonable academic accommodations to students with disabilities (i.e. physical, depression, learning, etc). If you have a disability, the [Centre for Accessible Learning](#) (CAL) can help you document your needs, and where disability-related barriers to access in your courses exist, create an accommodation plan. By making a plan through CAL, you can ensure you have the appropriate academic accommodations you need without disclosing your diagnosis or condition to course instructors. Please visit the CAL website for contacts and to learn how to get started:

<http://camosun.ca/services/accessible-learning/>

### Academic Integrity

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf> for policy regarding academic expectations and details for addressing and resolving matters of academic misconduct.

### Academic Progress

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.1.pdf> for further details on how Camosun College monitors students' academic progress and what steps can be taken if a student is at risk of not meeting the College's academic progress standards.

### Course Withdrawals Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.2.pdf> for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit <http://camosun.ca/learn/fees/#deadlines>.

### Grading Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf> for further details about grading.

### Grade Review and Appeals

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf> for policy relating to requests for review and appeal of grades.

### Mandatory Attendance for First Class Meeting of Each Course

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable reason in advance, you will be removed from the course and the space offered to the next waitlisted student. For more information, please see the "Attendance" section under "Registration Policies and Procedures" (<http://camosun.ca/learn/calendar/current/procedures.html>) and the Grading Policy at <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf>.

### Medical / Compassionate Withdrawals

Students who are incapacitated and unable to complete or succeed in their studies by virtue of serious and demonstrated exceptional circumstances may be eligible for a medical/compassionate withdrawal. Please visit

<http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.8.pdf> to learn more about the process involved in a medical/compassionate withdrawal.

### Sexual Violence and Misconduct

Camosun is committed to creating a campus culture of safety, respect, and consent. Camosun's Office of Student Support is responsible for offering support to students impacted by sexual violence. Regardless of when or where the sexual violence or misconduct occurred, students can access support at Camosun. The Office of Student Support will make sure students have a safe and private place to talk and will help them understand what supports are available and their options for next steps. The Office of Student Support respects a student's right to choose what is right for them. For more information see Camosun's Sexualized Violence and Misconduct Policy: <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.9.pdf> and [camosun.ca/sexual-violence](http://camosun.ca/sexual-violence). To contact the Office of Student Support: [oss@camosun.ca](mailto:oss@camosun.ca) or by phone: 250-370-3046 or 250-3703841

### Student Misconduct (Non-Academic)

Camosun College is committed to building the academic competency of all students, seeks to empower students to become agents of their own learning, and promotes academic belonging for everyone. Camosun also expects that all students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Please review Camosun College's Student Misconduct Policy at <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf> to understand the College's expectations of academic integrity and student behavioural conduct.

**Changes to this syllabus:** Every effort has been made to ensure that information in this syllabus is accurate at the time of publication. The College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.