

COURSE SYLLABUS



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

CLASS SECTION: B01

TERM: Winter 2022

COURSE CREDITS: 4

DELIVERY METHOD(S): Blended

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

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

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

NAME: Susan Chen

EMAIL: chen@camosun.bc.ca

OFFICE: E242/Zoom

HOURS: M, Tu, W 13:30 – 14:20, Tu 9:30 – 10:20, and by appointment

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

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

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

(a) Texts

- 1) Probability and Statistics for Engineers and the Sciences by Devore, either 8th or 9th edition. It can be an access code from the Camosun bookstore (for 9th edition only), a pdf copy or a printed copy of either version.
- 2) STAT 218 skeleton notes, either purchase from Camosun Bookstore or print your own from D2L
- 3) STAT 218 R Lab Manual, available in D2L.

(b) Other

A Sharp EL-531 scientific calculator

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

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

Lectures: Mon and Wed 2:30 - 3:20 in E346

Week/ Date Range	Textbook sections to Read, Videos to watch, and skeleton notes to complete BEFORE Mon. class	Labs Due Thur.	Tests All quizzes and midterms will be on Wednesdays
Week 1, Jan 10 – Jan 14	Day 1 intro, 2.1, 2.2, 2.3		
Week 2, Jan 17 – Jan 21	2.4, 2.5, 1.1, 1.2 <i>Jan 19 drop deadline</i>	Lab intro	Quiz 1 (notes 2.4-2.5, 1.1-1.2, HW 2.1-2.3)
Week 3, an 24 – Jan 28	1,3, 1.4		Quiz 2 (notes 1.3-1.4, 3.1, HW 2.4-2.5, ch2 supp, 1.1-1.2)
Week 4, Jan 31 – Feb 4	3.1 - 3.4	Lab 1	Quiz 3 (notes 3.2, 3.3, 3.4, HW 1.3-1.4, ch 1 supp, 3.1)
Week 5, Feb 7 – Feb 11	Review 1, 3.6, 4.1		Midterm 1 (1.1-3.4)
Week 6, Feb 14 – Feb 18	4.2, 4.3	Lab 2	Quiz 4 (notes 3.6, 4.1-4.3, HW 3.2, 3.3, 3.4)
Week 7, Feb 21 – Feb 25	Family Day & Reading Break.		
Week 8, Feb 28 – Mar 4	4.4, 4.6, 5.1 - 5.3	Lab3	Quiz 5(notes 4.4, 4.6, 5.1-5.2, HW 4.2, 4.3)
Week 9, Mar 7 – Mar 11	5.4, 5.5, 6.1 <i>Mar 13 last day to withdraw</i>		Quiz 6 (notes 5.4, 5.5, 6.1, HW 4.4, 4.6, ch 4 supp, 5.1, 5.2, 5.3)
Week 10, Mar 14 – Mar 18	Review 2, 6.2, 7.1	Lab 4	Midterm 2 (3.6-6.1)
Week 11, Mar 21 – Mar 25	7.2, 7.3, 8.1		Quiz 7 (notes 6.2, 7.1-7.3, 8.1) take-home HW
Week 12, Mar 28 – Apr 1	8.2, 8.3	Lab 5	Quiz 8 (notes 8.2, 8.3, ch 8 supp, HW 7.2, 7.3, 8.1)
Week 13, Apr 4 – Apr 8	Review 3, 9.1, 9.2,		Midterm 3 (6.2-8.3)
Week 14, Apr 11 – Apr 15	Final Review	Lab Final	Quiz 9 (notes and HW 9.1-9.2),

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

DESCRIPTION	WEIGHTING
R Labs	10%
Quizzes	15%
Midterms	30%
Lab Final	10%
Final Exam	35%
TOTAL	100%

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

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 follow a lab manual for each lab. The required lab manual is available in D2L along with a video clip for each lab session. A lab assignment follows each lab session. Lab assignments are to be submitted to the D2L Assignments folder before the due date. Late labs will not be accepted.

Math Lab E224: You can get **free tutoring** from our instructional assistants (IA) the Math Lab. Lab hours can be viewed at <http://camosun.ca/services/help-centres/>

Homework: *"I hear and I forget. I see and I remember. I do and I understand."* The homework for this course will include 1) The assignment problems from the textbook and 2) R lab assignments. *It is essential to review notes and do homework each week and to keep up consistently. Cramming does not work for this course.*

Desire2Learn (D2L)

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

STUDENT RESPONSIBILITY

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

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	http://camosun.ca/advising
Accessible Learning	http://camosun.ca/accessible-learning
Counselling	http://camosun.ca/counselling
Career Services	http://camosun.ca/coop
Financial Aid and Awards	http://camosun.ca/financialaid
Help Centres (Math/English/Science)	http://camosun.ca/help-centres
Indigenous Student Support	http://camosun.ca/indigenous
International Student Support	http://camosun.ca/international/
Learning Skills	http://camosun.ca/learningskills

Library	http://camosun.ca/services/library/
Office of Student Support	http://camosun.ca/oss
Ombudsperson	http://camosun.ca/ombuds
Registration	http://camosun.ca/registration
Technology Support	http://camosun.ca/its
Writing Centre	http://camosun.ca/writing-centre

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.

COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

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. To contact the Office of Student Support: 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.