



COURSE OUTLINE

The course description is online @ <http://camosun.ca/learn/calendar/current/web/math.html>

Ω Please note: the College electronically stores this outline for five (5) years only.
It is **strongly recommended** you keep a copy of this outline with your academic records.
You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

1. Instructor Information

(a)	Instructor:	Patricia Wrean (Pat)		
(b)	Office Hours:	Posted on office door and website		
(c)	Location:	CBA 153		
(d)	Phone:	(250) 370-4542	Alternative Phone:	
(e)	Email:	wrean@camosun.bc.ca		
(f)	Website:	http://wrean.disted.camosun.bc.ca/stat254/		

2. Intended Learning Outcomes

(No changes are to be made to these Intended Learning Outcomes as approved by the Education Council of Camosun College.)

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

- Use probability theory to solve applied problems.
 - Calculate probabilities using simple events, counting techniques, and the properties of probability.
 - Calculate conditional probabilities.
 - Define and identify independent events, mutually exclusive events, and complementary events.
 - Calculate probabilities using Bayes' Theorem.
- Explore probability distributions of discrete and continuous random variables.
 - Solve problems involving probability distributions of discrete random variables including binomial, Poisson, hypergeometric, and negative binomial distributions.
 - Use integration to calculate the expected value and variance of continuous random variables, including the uniform and exponential distributions.
 - Use the standard Normal Probability Table to solve problems involving the normal distribution.
- Use descriptive statistical techniques to organize, summarize, and display data in a meaningful way.
 - Describe a data set numerically by calculating the mean, median and sample and population standard deviation.
 - Interpret histograms and other graphical displays of data sets.
 - Make predictions about the distribution of a data set using Empirical Rule and Tchebyshev's Theorem.
- Use inferential statistical techniques to make predictions about populations.
 - Discuss issues associated with collecting and interpreting data from sample surveys.
 - Describe the sampling distributions of the sample mean and the sample proportion using the Central Limit Theorem.
 - For large samples, calculate point estimates and confidence intervals for population means and proportions, and determine appropriate sample sizes.
 - Perform large-sample hypothesis tests for population means and differences in means and for population proportions and differences in proportions.
 - For small samples, calculate point estimates and t-confidence intervals and perform t-tests for the population mean.
 - For small samples, use the chi-square distribution to construct confidence intervals and perform hypothesis testing for the population variance.
- For a bivariate data set, calculate and interpret the coefficients of correlation and the coefficient of determination, and determine the least squares regression line when appropriate.

3. Required Materials

- (a) There is no required text. Some optional texts may be listed on the course website.
- (b) Calculator: Only regular scientific calculators (non-programmable, non-graphing) will be permitted for quizzes and exams. The use of other electronic devices such as cell phones, MP3 players, iPods, electronic translators, etc., during exams is not allowed.

4. Course Content and Schedule

Describing Data with Graphs
Describing Data with Numerical Measures
Correlation and the Regression Line
Probability and Probability Distributions
Discrete Probability Distributions
The Normal Probability Distribution
Sampling Distributions
Large Sample Estimation
Hypothesis Testing
Small Sample Inference
Goodness-of-Fit

5. Basis of Student Assessment (Weighting)

Grade Calculation: To get a C or higher in the course, you must pass the final exam (50% or higher) and have an overall average of 60% or higher, computed from:

Tests:	40%
Assignments:	10%
Final Exam:	50%

which is then converted to a letter grade using the standard Camosun grade scale. There is one exception: if your term work is at least 50% and you received 60% or higher in the final exam, then you will receive a C in the course even if your overall average is under 60%.

Final Exam: The final exam will cover the entire course and will be 3 hours long. As stated in the current college calendar, “students are expected to write tests and final examinations at the scheduled time and place.” Exceptions will only be considered due to emergency circumstances as outlined in the calendar. Holidays or scheduled flights are not considered to be emergencies.

Tests: There will be two term tests. If a student is absent for one of these tests for any reason, the student will write a make-up test on the last day of classes. If more than one test (including the makeup) is missed for documented excuses, the weight of the missed tests will be transferred to the final exam.

Assignments: The lowest assignment grade will be dropped when calculating the average of your assignments. This allows a student to miss any one assignment for any reason, including illness, without penalty.

Late Policy: Assignments that are late will be given a 25% penalty if the solutions have not yet been posted to the course website. Once the solutions have been posted, late assignments will not be accepted.

Collaboration Policy: Student are encouraged to collaborate (work together) on assignments. However, you must be prepared to answer similar questions on your own for the quizzes, so it is vital that you yourself understand all of the assigned questions and work that you turn in.

6. Grading System

(No changes are to be made to this section unless the Approved Course Description has been forwarded through the Education Council of Camosun College for approval.)

Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D	Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite.	1
0-49	F	Minimum level has not been achieved.	0

Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy E-1.5 at camosun.ca for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	<i>Incomplete:</i> A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	<i>In progress:</i> A temporary grade assigned for courses that, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. (For these courses a final grade will be assigned to either the 3 rd course attempt or at the point of course completion.)
CW	<i>Compulsory Withdrawal:</i> A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.

7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services, or the College web site at camosun.ca.

STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services, and the College web site in the Policy Section.

Math Lab: Technologies Centre (TEC) 142 (phone: 370-4492):

This drop-in centre is freely available for your use to work on math homework and to seek help from the tutor on staff (see hours posted on door).