

	<p>School of Arts & Science MATHEMATICS DEPARTMENT</p> <p>MATH 218-01 Probability and Statistics 1 2006F</p>
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COURSE OUTLINE

The Approved Course Description is available on the web @ <http://www.camosun.bc.ca/learn/calendar/math.html#MATH218>

Ω Please note: this outline will be electronically stored for five (5) years only.
It is strongly recommended students keep this outline for your records.

1. Instructor Information

(a)	Instructor:	Susan Chen		
(b)	Office Hours:	Please find them on my website		
(c)	Location:	E260		
(d)	Phone:	370-3497	Alternative Phone:	
(e)	Email:	chen@camosun.bc.ca		
(f)	Website:	http://chen.disted.camosun.bc.ca		

2. Intended Learning Outcomes

(No changes are to be made to this section, unless the Approved Course Description has been forwarded through EDCO for approval.)

Upon completion of this course the 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.

3. Required Materials

(a)	Texts	Devore, Jay L., “ <i>Probability and Statistics for Engineering and the Sciences</i> ”, Sixth edition, 2004 Lab Manual Chen, “ <i>Math 218 Lab Manual</i> ”, Camosun College Print Shop.
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(b)	Other	A Sharp EL-531 Scientific Calculator.
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4. Course Content and Schedule

(Can include: class hours, lab hours, out of class requirements and/or dates for quizzes, exams, lectures, labs, seminars, practicums, etc.)

<u>Topics</u>	<u>Sections</u>
1: Introduction and Descriptive Statistics	1.1 – 1.4
2: Probability	2.1 – 2.5
3: Discrete Random Variables and Probability Distributions	3.1 – 3.4, 3.6
4: Continuous Random Variables and Probability Distributions	4.1 – 4.4, 4.6
5: Joint Probability Distribution and Random Samples	Discrete parts of 5.1 – 5.2, 5.3 – 5.5
6: Point Estimation	6.1 – 6.2 (omit The Method of Moments)
7: Statistical Intervals: single sample	7.1 – 7.3
8: Tests of Hypotheses: single sample	8.1 – 8.2, 8.3 (omit β and sample size determination), 8.4, 8.5
9: Inferences Based on Two Samples	9.1(omit β and the choice of sample size), 9.2

Computer Lab: This course includes lab sessions designed to familiarize students with the use of a computer as a tool for statistical analysis. The software package we use is MINITAB. You must have a lab manual ready before your first lab. The required lab manual is available in the bookstore at Lansdowne Campus. A lab assignment will be assigned for each lab session.

Math Labs: There are two Math Labs on the Lansdowne campus to assist students in all Math courses. They are located in room E224 and E342. Lab hours are posted on the lab doors.

Calculator: A Sharp EL-531 scientific calculator is required. (The model number on the packaging might be EL-531W.) This is the **only** calculator that will be allowed for tests and examinations. This calculator is available at the Lansdowne Bookstore, and other stores such as Staples and Office Depot.

Homework: There are two sets of homework assignments for this course. Set #1 consists of eleven Assignment Worksheets. These assignments will be collected and marked for credits. Set #2 consists a list of problems from the textbook. These are for you to practice to get a better understanding of this course (and therefore a better grade).

The key for earning a good grade in a Statistics course, in particular this course, is to do homework after every class and to stay on top consistently. **Cramming does not work for this course.**

Practice Tests: Four practice tests, one for each test, are posted on my webpage. Solutions will be posted on the day before each test.

5. Basis of Student Assessment (Weighting)

(Should be linked directly to learning outcomes.)

A tentative schedule for the tests and their percentages as that of the final grade is given in the table below. Each test covers material learned between this test and the previous test. The final exam covers all materials.

Test 1	Wednesday, week 5, Oct.4	10%
Test 2	Wednesday, week 8, Oct. 25	10%
Test 3	Wednesday, week 11, Nov. 15	10%
Test 4	Wednesday, week 14, Dec. 6	10%
HW/Lab Assignments		20%
Final Exam	Time and Room TBA	40%

All tests must be written during the scheduled period. In the event that you missed a test due to family emergency or illness, the weight of the test will be put on the final exam if a note (email or paper) was sent to the instructor before the test time. **NO** late homework or late lab assignments will be accepted. Final examinations will be held during December 11 – 16, and December 18 – 19. You must be available to write the final examination at the scheduled time.

6. Grading System

(No changes are to be made to this section, unless the Approved Course Description has been forwarded through EDCO for approval.)

Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
95-100	A+		9
90-94	A		8
85-89	A-		7
80-84	B+		6
75-79	B		5
70-74	B-		4
65-69	C+		3
60-64	C		2
50-59	D		1
0-49	F	Minimum level has not been achieved.	0

A student's evaluation may be solely based the results of the final examination provided that all homework and lab-assignments have been completed satisfactorily. The grade scheme is as follows:

$$\text{Final Grade} = \text{Max} (\text{Score1}, \text{Score2})$$

where $\text{Score1} = 20\%(\text{hw/lab}) + 40\% (\text{tests}) + 40\%(\text{final exam})$

$$\text{Score 2} = \begin{cases} 100\%(\text{final exam}) & \text{if all homework and lab - assignments have been completed} \\ 0 & \text{otherwise} \end{cases}$$

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 at camosun.ca or information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
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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 are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.
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.

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.

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 on the College web site in the Policy Section.

ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED