CAMOSUN COLLEGE
MATHEMATICS DEPARTMENT
COURSE OUTLINE

MATH 218 Introduction to Probability and Statistics 1

Instructor: Susan Chen
Office: Ewing 254
Phone Number: 370 – 3497
Email: chen@camosun.bc.ca
Webpage: http://ccins.camosun.bc.ca/~chen/

Calendar Description: This course is intended for Mathematics, Physics and Computer science students. Topics include: descriptive statistics; elementary probability theory; discrete and continuous probability distributions; expectation; joint, marginal and conditional distributions; linear functions of random variables; sampling distributions; point and interval estimation; and hypothesis testing.

Prerequisites: Math 100.

In-Class Workload: 4 lectures each week, 1 lab every other week.

Out-of-Class Workload: 4 – 6 hours per week.

Textbook:
Devore, Jay L. *Probability and Statistics for Engineering and the Sciences*, Fifth Edition, 1995.

Course summary:

Topic	Sections
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 – 4.3
5: Joint Probability Distribution and Random Samples	Discrete parts of 5.1 – 5.2, and 5.3 – 5.5
6: Point Estimation	6.1 – 6.2
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 and small-sample tests), 8.4, 8.5(omit likelihood ratio principle)
9: Inferences Based on Two Samples	9.1(omit β and the choice of sample size) 9.2, 9.3 - 9.4

Statistical Software and 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 will use is MINITAB. You must have a computer account and 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.

Against All Odds: Inside Statistics Video Series: This video series is purchased to assist you studying this course. Each video focuses on one topic of this course. Students who have viewed these videos in the past found them helpful and fun to watch. The video can be signed out at the front desk of the library as reserved items. It is recommended that you view them in the video room of the library.

Calculator: A scientific calculator with statistical functions is required. There are many different kinds of calculators that are suitable for this course and they may function differently. Please read the manual of your calculator to figure out how to use the statistical functions.

Homework: Homework will be assigned at the beginning of each section. Students are expected to do all the problems assigned after every lecture. Students are also recommended to practice some of the unassigned odd number problems in the textbook. Assignments will also be given. The assignments will be collected for marks. 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 will not work for this course.**

Math Lab: The Mathematics Department has a Math Lab (Ewing 224) to support mathematics students. In the Math Lab, free tutoring, reference texts, computer software, and other math learning supports are available. The Lab opens for regular day, some weekends and evening hours. Check the schedule posted on the lab door. During the open hours, a TA is available to provide assistance with the course material. All students are encouraged to take the advantage of the Math Lab service.

Practice Tests: There will be a practice-test-session in class on the day before each test. Students would benefit most by coming to the practice-test-session having reviewed the sections of material to be covered by the test. Students are encouraged to ask me questions and discuss among peers during the sessions.

Evaluation: A tentative schedule for the tests and their percentages as that of the final grade are given in the table below. Each test covers material learned between this test and the previous test. The final exam covers all material. The student's evaluation may be solely based the results of the final examination provided that all lab-assignments are completed.

All tests must be written during the scheduled period and all assignments must be handed in on time.

Test 1	Friday, October 4	13.33%
Test 2	Friday, November 1	13.33%
Test 3	Friday, November 29	13.33%
Assignments and Lab assignments	Lab assignments: every other Wednesday Other assignments due days TBA	 15%
Final exam	Time and room TBA	45%

NOTE: Final examinations will be held from December 9 to December 17. You must be available to write at the scheduled time.

Grading:

A+ : 95 - 100%	B+ : 80 - 84%	C+ : 65 - 69%	F: 0 - 49%
A: 90 - 94%	B : 75 - 79%	C : 60 - 64%	
A-: 85- 89%	B-: 70 - 74%	D: 50 - 59%	