



**School of Arts & Science
MATHEMATICS DEPARTMENT**

**MATH 116-01 and 04
Elementary Statistics
2007W**

COURSE OUTLINE

The Approved Course Description is available on the web @

<http://www.camosun.bc.ca/learn/calendar/math.html#MATH116>

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)	Location:	E260
(c)	Phone:	370-3497
(d)	Email:	chen@camosun.bc.ca
(e)	Webpage:	http://chen.disted.camosun.bc.ca
(f)	Office Hours:	Please find them on my webpage.

2. Intended Learning Outcomes

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

1. Identify problems in our society for which statistical analyses are suitable.
2. Compute and interpret descriptive statistics.
3. Solve basic probability problems. Distinguish between continuous and discrete probability distributions. Perform calculations involving various probability distributions including Binomial and Normal distributions.
4. Estimate the population mean and population proportion, and determine sample size.
5. Estimate the difference between two means, or two proportions.
6. Test hypotheses about a mean, a proportion, a difference of two means, or a difference of two proportions.
7. Perform basic correlation and simple linear regression analysis.
8. Perform basic categorical data analysis.
9. Perform basic statistical data analysis with the aid of a computer software package.

3. Required Materials

(a)	Texts	Textbook Triola, Goodman and Law, Elementary Statistics, Second Canadian Edition, Addison-Wesley, 2002 Lab Manual Calver, Chen, and Salloum, “ <i>Math 116 Lab Manual</i> ”, Camosun College Print Shop
(b)	Other	A Sharp EL-531 Scientific Calculator. Pencils and a BIG eraser.

4. Course Content and Schedule

<u>Topic</u>	<u>Sections</u>
Introduction	1.1 – 1.4
Descriptive Statistics	2.1 – 2.7
Probability	3.1 – 3.4, 4.1 – 4.4
Normal Probability Distributions	5.1 – 5.6
Estimates and Sample Sizes	6.1 – 6.4
Hypothesis Testing	7.1 – 7.5
Correlation and Regression	9.1 – 9.3
Chi-Square Tests	10.1 – 10.3
Tests Comparing Two Parameters	8.1 – 8.3, 8.6
Non-parametric Tests	13.1 – 13.3 time permitting

Computer Lab: This course includes computer lab sessions designed to familiarize students with the use of a computer as a tool for statistical analysis. The computer software we use is Statistics Program for Social Scientists (SPSS). 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 is assigned for each lab session. A take-home Lab Final Examination will be given in the 13th week of the semester.

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. Identify the times that work for you best and use the Math Labs as much as you can, either for help or simply doing your homework there! Most students, if not all who have used the labs found them to be very helpful.

Against All Odds: Inside Statistics Video Series: The college purchased this video series to assist you study introductory statistics. 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 videos can be signed out the same way as library books. You can take the videos and watch them in the “Viewing Room” in the library as well.

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: Homework problems for this course will be handed out in the first week of classes. They are posted on my webpage as well. The required problems are divided into four (4) assignments. Each assignment will be due in class immediately before its respective test for credit (to check for completion). For full mark, you must show all work. An answer without work, like the ones appear in Appendix E of the textbook, will not be counted for credit.

Please schedule at least 45 minutes each day for completing the homework. Ask questions before you get frustrated or behind. Please try to understand what you are doing when you work through each problem. Please remember the objective of doing homework is to gain a better understanding of the course material and therefore be more confident when apply the knowledge in the future. Completing homework is not a goal, but a process to inform ourselves.

The key for gaining good understanding (and a good grade!) in this course is to thoughtfully work through each homework problem after every class and to keep up consistently. **Cramming does not work for this course.**

Practice Tests: There will be a practice test session on the day before each test. Students are encouraged to ask questions and to discuss among peers during these sessions. Students benefit most from these practice tests when they come to the practice tests with the notes reviewed, all homework problems completed, and a formula sheet made.

5. Basis of Student Assessment (Weighting)

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 materials.

Test 1	Thursday, 4 th week, February 1	8%
Test 2	Thursday, 7 th week, February 22	8%
Test 3	Thursday, 10 th week, March 15	8%
Test 4	Wednesday, 14 th week, April 11	8%
Homework and Lab assignments		18%
Lab Final (take home)	Week 13	10%
Final Examination (3 hours)	Time and room TBA	40%

All tests must be written during the scheduled times. 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 for credit. Final examinations will be held during April 16 - 21, and April 23 - 24. You must be available to write the final examination at the scheduled time.**

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:

Final Grade = The higher of Score1 and Score2, where

Score1 = 18%(hw/lab) + 32 % (tests) + 10%(lab final) + 40%(final exam)

Score 2 =
$$\begin{cases} 10\%(\text{lab final}) + 90\%(\text{final exam}) & \text{if all homework and lab assignments have been completed} \\ 0 & \text{otherwise} \end{cases}$$

6. Grading System

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

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
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.