



School of Arts & Science
MATHEMATICS & STATISTICS DEPARTMENT

STAT 116
Elementary Statistics
2015 Fall

COURSE OUTLINE

This course is mainly for students in criminal justice, dental hygiene, social sciences and general arts. Topics include descriptive statistics, probability and probability models, one- and two-sample inferences for population means and proportions, simple linear correlation and regression, categorical data analyses.

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 Kinniburgh |
| (b) | Office: | E266 |
| (c) | Phone: | 250-370-3504 |
| (d) | Email: | kinniburghs@camosun.ca |
| (f) | Desire2Learn page | http://online.camosun.ca/ |
| (g) | WeBWork | http://webworklans.camosun.ca/webwork2/Stat116-Fall2015/ |
| (h) | Office Hours: | Tuesdays 3:30-5:00, Wednesdays 12:30-1:20, Thursdays 4:30-5:20, Fridays 11:30-1:00 |

2. Intended Learning Outcomes

The prerequisite is a C or higher in Principles of Math 11, or Applications of Math 11, or MATH 072, or MATH 135, or assessment. 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 Bluman and Mayer, Elementary Statistics, Second Edition, McGraw-Hill Ryerson, 2011 A student solution manual is available online (see the link on D2L) |
| (b) | Other | A Sharp EL-531 Scientific Calculator. <i>No other calculators are allowed for tests and the final examination.</i> |

4. Course Content and Other Course Information

Course Content

| Topic | Chapter |
|--|---------|
| The Nature of Probability and Statistics | 1 |
| Frequency Distributions and Graphs | 2 |
| Data Description | 3 |
| Probability | 4 |
| Discrete Distributions | 5 |
| Normal Distribution | 6 |
| Confidence Intervals | 7 |
| Hypothesis Testing | 8 |
| Comparing 2 groups | 9 |
| Correlation and Regression | 10 |
| Chi-Square Tests | 11 |

Excel Labs

This course includes computer lab sessions designed to familiarize students with the use of a computer program to perform data analysis and the procedure of reporting data analysis results. Microsoft Excel will be used for this purpose. The lab instructions along with lab assignments can be found on D2L.

Homework

The homework for this course will include 1) **Hard copy written** assignments, 2) **Lab** assignments, 3) **Online WeBWork** assignments, and 4) Suggested problems from the textbook (answers for these problems are given in the textbook and solutions are available online via the link provided on D2L). *In order to get a full understanding of the course materials, it is necessary to complete both sets of homework. It is essential to do homework after every class and to keep up consistently. **Cramming does not work for this course, unfortunately.***

It will be very helpful if you can schedule at least 30 minutes each day for completing the homework, and spend 1 hour each week in the Math Lab (E224) to get all the help that you need for FREE. Ask questions before you get frustrated or behind. Please try to understand what you are doing when you work through each problem. Attempt each problem before you look at the solutions.

Tests and Practice Tests

There will be three tests. Before each of the 3 tests, there will be a practice test. You are encouraged to ask questions and to work together with peers during these practice test sessions. The practice tests and their solutions are posted on Desire2Learn. *You will benefit most from these practice tests if you have all notes reviewed, all homework problems completed and a summary sheet made before you attempt the problems.*

Attendance

Attendance is essential. Showing up to classes is the easiest and most important thing you can do to help you succeed the course. **Keeping up is an essential part of any statistics course as much of the material builds on itself.** If you feel yourself falling behind at any point during the term, then please do not hesitate to come to speak to me.

Math Lab

You can get **free face-to-face tutoring** from our instructional assistant in the Math Lab **E224**. Lab hours are posted on the lab doors and on the Math Department page <http://camosun.ca/learn/programs/math/>. Find out what hours work for you best (when the lab is the least busy).

Desire2Learn (D2L)

This class has the assistance of D2L, an online course management system. All course related materials, such as slides, Lab materials, practice tests and their answers, grades, discussion forum and announcements will be available on D2L. It is your responsibility to check it regularly.

D2L URL: <http://online.camosun.ca>

e.g., John Smith, birthday: April 7, 1989

Username: firstname.lastname-date-of-birth

Username: john.smith07

Password: MMDDYY of your birthdate

Password: 040789

5. Basis of Student Assessment (Weighting)

| | |
|-------------------------------|-----|
| Assignments | 10% |
| Lab Assignments | 5% |
| WeBWork Assignments | 5% |
| 3 Tests | 40% |
| Lab Final | 10% |
| Cumulative Final Exam (3 hrs) | 30% |

Please refer to the **Pace Schedule** for tentative *tests dates* and lab/homework *due dates*.

All tests must be written during the scheduled times. In the event that you missed a test or did poorly on a test due to family emergency or illness, the weight of the test will be put on the final exam if the instructor is notified *immediately*. Final examinations will be scheduled by the college and they will take place during December 14 - 22. You must be available to write the final examination at the scheduled time. Holidays or scheduled flights are not considered as emergencies.

6. Grading System

Percentage grades will be converted to letter grades as follows:

| | | | | | | | |
|----|-----------|----|----------|----|----------|---|---------|
| A+ | [90, 100] | B+ | [77, 80) | C+ | [65, 70) | F | [0, 50) |
| A | [85, 90) | B | [73, 77) | C | [60, 65) | | |
| A- | [80, 85) | B- | [70, 73) | D | [50, 60) | | |

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

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of Academic Policies and Procedures at <http://camosun.ca/learn/calendar/2010/pdf/academic.pdf>. 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.bc.ca.

8. Academic Integrity

The Department of Mathematics and Statistics has prepared a handout called *Student Guidelines for Academic Integrity* to help you to interpret college policies involving student conduct, academic dishonesty, plagiarism, etc. It is your responsibility to become familiar with the contents of the document and the college policies it references.