

# MATH 116 – 003 (Elementary Statistics) Course Outline



SCHOOL OF ARTS AND SCIENCE  
MATHEMATICS DEPARTMENT  
WINTER 2009

The approved course description is available on the web at: <http://camosun.ca/learn/calendar/current/web/math.html#MATH116>

## 1. Instructor Information

Instructor:	Geoffrey Salloum
Office Hours:	I have at least one hour set aside every day for you to drop by. These hours can be found outside my office door and on my website. You can also make an appointment with me for other times as well. Don't be shy!
Office Location:	Ewing 266
Phone:	250.370.3504 (not a good way to contact me)
Email:	salloumg@camosun.bc.ca (If I do not respond within 24 hours, then try gsalloum@gmail.com)
Website:	<a href="http://gsalloum.googlepages.com">http://gsalloum.googlepages.com</a>

## 2. Intended Learning Outcomes

Upon completion of this course students will be able to:

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

## 3. Required Materials

- Text: Intro Stats (2<sup>nd</sup> or 3<sup>rd</sup> ed), DeVeaux, Velleman, and Bock. Addison – Wesley, 2008
- Lab Manual: Calver, Chen and Salloum, "Math 116 Lab Manual," Camosun Print Shop.
- Calculator: Sharp EL-531 Scientific (**only** calculator that may be used for examinations).

## 4. Course Content /Information

**Labs and Assignments:** This course includes five lab sessions held on some Wednesdays throughout the term (Jan 14, Jan 21, Feb 4, Mar 4, and Mar 25) in E100 and E103. The labs are designed to familiarize you 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 computer account and lab manual ready before your first lab. **Each lab session includes a lab assignment that is due 7 days after the lab dates above.** A take-home lab final test will be made available near the end of the term and will be due in the final week of classes.

**Tests:** Three tests are tentatively scheduled for February 5, March 5, and April 2. A practice test (with solutions) will be made available on my website prior to each test. One 8.5"x11" double-sided formula sheet is permitted for each test. **There will be no rewrites for missed tests.** If a test is missed for **any** reason, then the portion of your final grade allocated to that test will be added onto your final exam (provided that you do well on the missed material on the final exam). While the tests will only cover material learned since the previous test, the final exam will be cumulative. The final exam may be scheduled for a date as late as April 22, 2009.

**Attendance and Suggested Problems:** Showing up to class is arguably the easiest and most important thing you can do to help your college experience. **For this course in particular, keeping up is essential 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 speak to me. Also, there are two math help centers on the Lansdowne campus staffed by instructional assistants available for free for students who would like help or would like to work with others. They are located in rooms E224 and E342.

This course will cover most of the material in the first 26 chapters of the text above. A more detailed list of topics is given below. I will provide a list of suggested problems (not to be submitted for grading) from the text for each chapter we complete, and working through these problems is perhaps the best way to ensure that you understand the material.

Topic	Chapters
Exploring and Understanding Data	1 - 6
Exploring Relationships Between Variables	7 - 9
Gathering Data	11 - 13
Randomness and Probability	14 - 17
From the Data at Hand to the World at Large	18 - 22
Learning About the World	23 - 25
Inference When Variables are Related	26

### 5. Basis of Student Assessment (Weighting)

Final Grade\* = Max (Score1, Score2), where

$$\text{Score1} = 10\% (\text{labs}) + 10\% (\text{lab final}) + 40\% (\text{tests}) + 40\% (\text{final exam}), \text{ and}$$

$$\text{Score2} = \begin{cases} 10\% (\text{lab final}) + 90\% (\text{final exam}) & \text{if all labs have been completed satisfactorily} \\ 0 & \text{otherwise} \end{cases}$$

\*Note that in order to pass this course (D or higher), you must obtain a final examination score of 40% or higher.

### 6. Grading System and Other Information

#### Standard Grading System (GPA)

Percentage	Grade	Grade Point Value	Description
90 - 100	A+	9	Exceptional, outstanding or excellent performance. Student shows initiative and an insightful grasp of theory and technique.
85 - 89	A	8	
80 - 84	A-	7	
77 - 79	B+	6	Very good or good performance. Student shows a good overall grasp of theory and technique or an excellent grasp in some areas balanced by a satisfactory grasp in others.
73 - 76	B	5	
70 - 72	B-	4	
65 - 69	C+	3	Satisfactory performance. Student shows a satisfactory grasp of theory and technique. Students may experience some difficulty being successful in courses for which this course is a prerequisite.
60 - 64	C	2	
50 - 59	D	1	Marginal performance. Student has a weak grasp of theory and technique, which is insufficient to take courses for which this course is a prerequisite.
0 - 49	F	0	Minimum level has not been achieved.

**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](http://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 <sup>rd</sup> 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.

#### 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](http://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.