

MATH 216 – 002 (Applied 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#MATH216>

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:	http://gsalloum.googlepages.com

2. Intended Learning Outcomes

Upon completion of this course students will be able to:

- Compute and interpret descriptive statistics.
- Perform calculations that apply the basic properties and concepts of probability.
- Make statistical inferences for one population and two populations.
- Make statistical inferences for more than two populations (ANOVA).
- Apply the technique of linear regression in circumstances where appropriate and assess the usefulness of a linear model in these situations using the concept of correlation.
- Apply basic methods to analyze categorical data.
- Use the statistical software MINITAB to perform basic data analysis.

3. Required Materials

- Introduction to the Practice of Statistics (5th or 6th ed), Moore, et al. Freeman, 2006 or 2009.
- Math 216 Lab Manual, Calver and Salloum. (Free on my website)
- Sharp EL – 531 Calculator (only calculator allowed for tests and examinations)

4. Course Content /Information

Computer Labs: This course includes five computer lab sessions held on some Tuesdays throughout the term (Jan 13, Jan 20, Feb 10, Feb 17, and Mar 24) 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 Minitab 14 (or 15). **Each lab session includes a lab assignment to be handed in 8 days after your lab day.** 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: Four tests are tentatively scheduled for January 30, February 27, March 20, and April 6. 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 12 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	Sections in Text
Looking at Data - Distributions	1.1 – 1.3
Looking at Data - Relationships	2.1 – 2.5
Producing Data	Selections from Chapter 3
Probability – The Study of Randomness	4.1 – 4.5
Sampling Distributions	5.1 – 5.2 and Poisson handout
Introduction to Inference	6.1 – 6.3
Inference for Distributions	7.1 – 7.2
Inference for Proportions	8.1 – 8.2
Analysis of Two-Way Tables	9.1 – 9.4
Inference for Regression	10.1
Analysis of Variance	12.1

5. Basis of Student Assessment (Weighting)

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

Score1 = 10% (labs) + 10% (lab final) + 40% (tests) + 40% (final exam), and

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 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 rd 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.

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.