



AMBROSE  
UNIVERSITY COLLEGE

**STA 210      QUANTITATIVE METHODS**  
**Instructor:** Don Liteplo

**Fall 2009**

**Contacting the Instructor**

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**Course Term**

**Dates:** September 9th to December 10th, 2009

**Class Times:** Tues & Thurs 9:45 to 11:00 am

**Class Location:** Room A2145

**Lab Times:** Mon 11:15 to 12:30 noon

**Lab Location:** Room A2141

**Course Description**

This course provides business students majoring in economics, finance, marketing, accounting, management, and other fields of business administration, with an introductory survey of many business applications of descriptive and inferential statistics. Statistics, as studied in this course, are a means of converting data into useful information that can be used to assist the business decision maker in making more thoughtful, information-based decisions. Main topics include: the different levels of data, sampling, techniques for summarizing and depicting data, techniques to describe data, principles of probability, probability distributions, sampling distributions, constructing confidence intervals, hypothesis testing, analysis of variance, simple regression analysis, and an overview of non-parametric methods.

**Course Objectives**

The main purpose of the course is to provide students with an understanding of common types of statistical analysis and with skill in the interpretation of the information that is produced by these types of statistical analysis. Twelve chapters in the required text have been selected for study. These chapters cover the main topics listed above.

Classroom time will be devoted mainly to explanation and discussion. Lab time will be devoted to explanation and demonstration by the instructor of statistical software applications, and to hands-on practice by the students (as well as completion of assignments). Some lab sessions will be used to finish coverage of materials that couldn't be completed in the lecture classroom and some lab sessions will be devoted to the writing of quizzes. The lab sessions are an integral part of the course – attendance at lab sessions is not optional.

**Required Text (must be possessed by each student)**

Bowerman, Bruce L. et al, *Business Statistics in Practice, Canadian Edition 2008*, McGraw-Hill Ryerson Limited.

## Other Materials

The textbook includes a CD-ROM which contains data files, tutorials, and a statistical program called Megastat. Megastat is software which is an Excel add-on. It permits sophisticated computer analysis that enhances the learning process. Each purchaser of a copy of the text (bundled with the CD) can install the software on his/her personal computer at no extra cost. Megastat is also installed on Campus laptop computers that will be brought to the lab sessions by the course instructor. Students will be required to complete some assignments using Megastat.

Additionally, a hand-held electronic calculator *with statistical functions* is required. Using such a tool will considerably reduce time spent in calculations. This is especially helpful when handling assignments and writing quizzes and examinations. While a particular calculator (make and model) cannot be specified, it is recommended that any such calculator purchased should have financial and statistical capabilities similar to the TI BA II Plus. Note that the course instructor will endeavour to assist students with calculator applications, and can provide considerable assistance with the above-named calculator but, because of the wide variety of calculators in use, each student is ultimately responsible for knowing how to use the calculator that he/she brings to the course.

As discussion of topics proceeds, the instructor may assign research of related statistics and other information. On-line sources of the statistics and other information may be accessed from the student's personal computer or from computers at Ambrose University College.

## Course Schedule

A *Detailed Course Schedule* will be handed out in the first week of the semester. This schedule will set out the topics, dates, and times for the lectures and lab sessions, and will also show the dates and times for assignments, quizzes, and the mid-term examination. The dates and times are subject to change at the instructor's discretion as the course progresses; changes, if any, will be few and will be communicated in advance. The following is a Broad Course Schedule.

TOPIC	TEXT REFERENCE
Introduction to Business Statistics	Chapter 1
Descriptive Statistics	Chapter 2
Probability	Chapter 3
Discrete Random Variables	Chapter 4
Continuous Random Variables	Chapter 5
Sampling Distributions	Chapter 6
Mid-Term Examination	
Confidence Intervals	Chapter 7
Hypothesis Testing	Chapter 8
Statistical Inferences Based on Two Samples	Chapter 9

Experimental Design and Analysis of Variance Chapter 10

Correlation Coefficient and  
Simple Linear Regression Analysis Chapter 11

Non-Parametric Methods Chapter 13

Final Examination

Students are required to read the above-listed chapters in the textbook in order to be prepared for the lectures, discussion, and problem-solving.

### Course Requirements and Grading

Student performance will be evaluated in a combination of classroom participation and graded assignments, quizzes, mid-term examination, and final examination. Mark allocation is as follows:

Participation	10%
Three Assignments	18% (6% each)
Two Quizzes	16% (8% each)
Mid-Term Exam	20%
Final Exam	<u>36%</u>
	100%

Students need not receive a passing grade on all components of term work and examinations in order to pass the course. However, failure to submit an assignment or write a quiz/examination, without the prior approval of the instructor, may result in an F grade for the course.

Marks for classroom participation are based on the instructor's impression (cumulative through the semester) of the student's efforts to review and comprehend assigned text material, the student's classroom and lab session attitude, quality of responses to questions asked by the instructor, and quantity/quality of contributions to classroom discussion. Absences from lectures and lab sessions can negatively impact marks for *participation*.

### Assignments/Quizzes

The assignments will be take-home exercises. One of the quizzes may be a take-home exercise. Deadlines for completion and submission of these will be clearly indicated in advance.

Any take-home assignment/quiz submitted after the due date will be penalized by 50%, but if submitted after answer keys have been posted, or after any graded materials have been returned to any students, a grade of 0% will be awarded.

All assignment and quiz papers must include the student's name (printed clearly).

Note that in order for a student to be eligible to write the final examination, he/she must submit all take-home papers by the last day of lectures and must have written all in-class quizzes on the scheduled dates. The mark for an in-class quiz which is *missed with a legitimate reason* (typically illness, evidenced by a Doctor's note) will normally be spread across (transferred to) the other quiz and assignments.

## Mid-Term Examination

The mid-term examination will be 1 1/4 hours (75 minutes) in length. It will be written during regular class (or lab) time *per the Detailed Course Schedule* and can cover all materials included in the course up to the date of the exam.

A grade of 0% will be awarded for a mid-term examination missed *without a legitimate reason*. If the mid-term examination is missed *with a legitimate reason*, a make-up mid-term examination will be arranged within one week. If the instructor determines that this arrangement is not practical, the final grade will be reallocated as follows:

Participation	10%
Three Assignments	24% (8% each)
Two Quizzes	20% (10% each)
Final Exam	<u>46%</u>
	100%

## Final Examination

The final examination will be comprehensive (i.e., can cover any materials included in the course during the semester, but emphasis will be on the material covered in the last half of the course). The final examination will have a maximum writing time of three hours (180 minutes). The exact time and date for writing will be posted by the Registrar. The final examination will be written during the final examination period – December 14<sup>th</sup> to 18<sup>th</sup>, 2009 – following the last day of classes. It is the student's responsibility to ensure that he/she does not have any conflicting commitments during the final examination period.

Graded final examinations will be available for supervised review at the request of the student.

Students need not receive a passing grade on all components of term work and examinations in order to pass the course.

## Available Letters for Course Grades

<u>% Grade</u>	<u>Letter Grade</u>	<u>Description</u>
95% to 100%	A+	
90% to 94%	A	Excellent
85% to 89%	A-	
80% to 84%	B+	
76% to 79%	B	Good
72% to 75%	B-	
68% to 71%	C+	
64% to 67%	C	Satisfactory
60% to 63%	C-	
55% to 59%	D+	
50% to 54%	D	Minimal Pass
0% to 49%	F	Failure

## **Important Notes**

A student's final course grade is not based upon the student's attendance record; however, the general expectation is that students will attend all classes and lab sessions in which they are registered. A combination of low academic performance and notable absences from classes or lab sessions may be brought to the attention of the program head.

September 18<sup>th</sup>, 2009, is the last day to enter a course without permission and to withdraw from a course and receive tuition refund.

November 13<sup>th</sup>, 2009, is the last day to voluntarily withdraw from a course or change to audit without academic penalty.

Course withdrawal forms are available from the Registrar. Students who do not follow the proper withdrawal procedures will be recorded as having failed the course.

It is the responsibility of all students to become familiar with and adhere to the academic policies contained in the Student Handbook and Academic Calendar.

Students are reminded that examinations will be actively invigilated. Students may only bring to an examination room items stipulated by the instructor to be required for the completion of the examination. All non-essential items (including, but not limited to, hats, coats, gloves, knapsacks, purses, and electronic devices other than approved calculators) must be left in an area of the examination room designated by the instructor. All cell phones and other unauthorized electrical devices **MUST** be turned off during examinations. Failure to comply may result in a failing grade for the examination.