

BUS 111A, Statistics I

3 Credits, 3 hour lecture, 2 hour lab

Students are introduced to basic statistical concepts and procedures used to solve business problems. Topics covered include: data graphics and charts; measures of central tendency and dispersion; elementary probability; probability and sampling distributions; interval estimation; hypothesis-testing; and regression & correlation. Students will also develop competence in the use of data analysis software.

Prerequisites and/or co-requisites: BUS 103

Instructor

Instructor Name: Ashraf Ahmed

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Office hours

Monday	12:00 pm – 2:00 pm
Wednesday	12:00 pm – 2:00 pm
Thursday	12:00 pm – 1:00 pm

Hours of Instruction

Monday and Wednesday, 10:30 am – 11:50 am, Room CC224

Labs: 111X, Thursday, 2:00 pm – 3:50 pm, Room CC282

111Y, Friday, 10:00 am – 11:50 pm, Room CC282

Required Resources

Sharpe, N., De Veaux, R., Velleman, P., and Wright, D. (2018). Business Statistics, third Canadian edition. Pearson. Canada. ISBN 9780134712529.

You will require access to MyLab Statistics for assignments and tests.

Textbook with access code for MyLab Statistics is available at the Keyano bookstore. You are also able to purchase just the MyLab Statistics access (without the textbook) at the Keyano bookstore.

Course Outcomes

Upon successful completion of the course, the student shall be able to:

- Arrange data sets and represent them using a number of organizational methods.
- Calculate the mean, median, mode, variance and standard deviation of a data set.
- Calculate the probability that any given event may occur.
- Calculate z-values in Normal Probability Distributions.
- Differentiate between z- and t-values.
- Conduct Hypothesis testing, using the five-step method, for single and two sample tests.
- Describe some of the common errors that occur in samples.
- Perform ANOVA calculations and generate the corresponding table.

Evaluation

Assignment	Percentage
Exercises (class/lab)	21%
Group project (research paper and presentation)	25%
Assignments	10%
Midterm 1	12%
Midterm 2	12%
Final Examination	20%

A grade of C- is required for progression or transfer.

Lab

In the real world, most statistical analyses are conducted using computer software. In this course we will be using one of the industry standards for analyzing statistics: IBM SPSS (Statistical Package for the Social Sciences). Labs are designed to introduce students to the main features of data organization, analysis, and interpretation of findings.

Note:

1. For learning to happen in any course, you must take an active role in the process. For this class, you are expected to come to class prepared and ready to learn, which requires you to review each chapter before class. Being prepared for class enables you to construct a knowledge base on which subsequent learning rests.
2. Your lowest exercise and assignment mark will be dropped in the calculation of your final grade. If you miss an assignment or quiz it will be considered a zero and qualify as your lowest grade. This is to accommodate any illness or emergency.
3. For collaborative exercises, one grade will be provided to every group member based on the exercise deliverables.
4. All exercises and assignments must be completed during the allotted period. There will be no exceptions.

I emphasize group learning in my classes, as I believe group activities help students develop varied skills that are increasingly important in the work environment. Working in groups will provide each student the opportunity to develop team skills, improve communication skills, and leverage personal experiences to contribute to group tasks.

Grading System

Descriptor	Alpha Grade	4.0 Scale	Percent
Excellent	A+	4.0	> 93.9
	A	4.0	87 – 93.9
	A-	3.7	80 – 86.9
Good	B+	3.3	77 – 79.9
	B	3.0	74 – 76.9
	B-	2.7	70 – 73.9
Satisfactory	C+	2.3	67 – 69.9
	C	2.0	64 – 66.9
	Progression	C-	1.7
Poor	D+	1.3	57 – 59.9
Minimum Pass	D	1.0	50 – 56.9
Failure	F	0.0	< 50

Proposed Schedule of Topics

WEEK OF	TOPIC	REQUIRED READING	EXERCISES AND ASSIGNMENTS
6 & 8 Jan	Review of course outline Introduction to Statistics	Course Outline Chapter 1-3	Lab: introduction to SPSS
13 & 15 Jan	Descriptive Statistics: Averages and Variability	Chapter 4 Chapter 5	Exercise 1 (class and lab) Assignment 1
20 & 22 Jan	Descriptive Statistics: Visual representation of data, and Computing correlation coefficients	Chapter 4 Chapter 5 Chapter 6	Exercise 2 (class and lab)
27 & 29 Jan	Descriptive Statistics: Reliability and validity Hypothesis testing Probability	Chapter 6 Chapter 12	Exercise 3 (class and lab)
3 & 5 Feb	Midterm 1 during lab on February 6 and 7	Chapter 8 Chapter 9	
10 & 12 Feb	Inferential Statistics: The concept of significance One-sample z-test	Chapter 12 Chapter 13	Exercise 4 (class and lab) Assignment 2
	Reading week, no classes		
24 & 26 Feb	Inferential Statistics: The t-test for independent samples The t-test for dependent samples	Chapter 14	Exercise 5 (class and lab)
2 & 4 Mar	Inferential statistics: Analysis of Variance (ANOVA) and its derivatives	Chapter 15	Exercise 6 (class and lab) Assignment 3
9 & 11 Mar	Inferential Statistics: Testing the correlation coefficient Linear and multiple regressions Review of draft research paper	Chapter 7 Chapter 20	Exercise 7 (class and lab)
16 & 18 Mar	Inferential Statistics: Linear and multiple regressions	Chapter 7 Chapter 20	** A draft copy of your research paper is due on March 18 (bring 2 hard copies to class)
	Midterm 2 during lab on March 19 and 20		
23 & 25 Mar	Nonparametric statistics	Chapter 16 Chapter 17	Assignment 4 **Group presentation during lab on March 26 and 27
30 Mar & 1 Apr	Advanced statistical procedures and how and when they are used Data mining		Exercise 8 (class and lab) **A final copy of your research paper is due on April 6
6 & 8 April	Final Exam Review		
14 - 22 April	Final Exam Week	Comprehensive Exam	

Please Note: Date and time allotted to each topic is subject to change.

Performance Requirements

Student Responsibilities

It is your responsibility as a student to contact the Office of the Registrar to complete the forms for Withdrawal or Change of Registration, and any other forms. Please refer to the list of important dates as noted in the Academic Schedule in the Keyano College credit calendar.

More specific details are found in the Student Rights and Student Code of Conduct section of the Keyano College credit calendar. It is the responsibility of each student to be aware of the guidelines outlined in the Student Rights and Student Code of Conduct Policies.

Student Attendance

Class attendance is useful for two reasons. First, class attendance maximizes a student's learning experience. Second, attending class is a good way to keep informed of matters relating to the administration of the course (e.g., the timing of assignments and exams). Ultimately, you are responsible for your own learning and performance in this course.

It is the responsibility of each student to be prepared for all classes. Students who miss classes are responsible for the material covered in those classes and for ensuring that they are prepared for the next class, including the completion of any assignments and / or notes that may be due.

Academic Misconduct

Students are considered to be responsible adults and should adhere to principles of intellectual integrity. Intellectual dishonesty may take many forms, such as:

- Plagiarism or the submission of another person's work as one's own
- The use of unauthorized aids in assignments or examinations (cheating)
- Collusion or the unauthorized collaboration with others in preparing work
- The deliberate misrepresentation of qualifications
- The willful distortion of results or data
- Substitution in an examination by another person
- Handing in the same unchanged work as submitted for another assignment
- Breach of confidentiality.

The consequences for academic misconduct range from a verbal reprimand to expulsion from the College. More specific descriptions and details are found in the Student Rights and Student Code of Conduct section of the Keyano College credit calendar. It is the responsibility of each student to be aware of the guidelines outlined in the Student Rights and Student Code of Conduct Policies.

In order to ensure your understanding of the concept of plagiarism, you must successfully complete the online tutorial found on ilearn.keyano.ca. Then print the certificate, sign it, and show it to each of your instructors. Your course work will not be graded until you show this signed certificate.

Specialized Supports**Counselling and Accessibility Services**

Counselling Services provides a wide range of specialized counselling services to prospective and registered students, including personal, career and academic counselling.

SKILL Centre

The SKILL Centre is a learning space in the Clearwater Campus at Keyano College where students can gather to share ideas, collaborate on projects and get new perspectives on learning from our tutorial staff.

The SKILL Centre, through a variety of delivery methods, provides assistance in skill development to Keyano students. Assistance is provided by instructors, staff and student tutors. Individuals wishing to improve their mathematics, writing, grammar, study, or other skills, can take advantage of this unique service.