STAT 151A   Introduction to Applied Statistics I
3 credits, 3 hrs lecture and 2 hrs lab per week, 16 weeks

An introduction to descriptive statistics (including histograms, stem-and-leaf plots, and box plots), elementary probability, the binomial distribution, the normal distribution, sampling distributions and the central limit theory. An introduction to inferential statistics including estimation of population parameters and confidence intervals for means, hypothesis testing including both one and two sample tests, paired comparisons, one-way analysis of variance, chi-square test, correlation and linear regression analysis.

Prerequisites and/or co-requisites
Math 30-1 or Math 30-2

Instructor
Dr. Danna Schock
Office location: S209c
Phone number: 780-791-4816
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Office Hours
Monday – Friday: 1 pm – 1:50 pm

Hours of Instruction

Lecture
Monday   2:00 – 2:50 pm   Room 228
Friday   10:00 – 11:50 am   Room 228

Lab
Tuesday   3:00 – 4:50 pm   Room S105
   or
Wednesday   2:00 – 3:50 pm   Room S107

Required Resources

Agresti, A. and Franklin, C. (2012) The art and science of learning from data, 3rd ed. New York: Freeman. ISBN 978-0-3217-4718-1

Other supplies and requirements

This course is supported through Moodle. Assignments, readings, handouts, etc., will be posted on Moodle. It is expected that you will be regularly visiting the course page and that you are able to send and receive messages through Moodle. You must ensure your account is operational and that you are familiar with how to navigate Moodle by the end of the first week of classes.

Similarly, you must ensure your KEYANO email is operational and you must check it regularly – twice a day is recommended. I will not use your personal email addresses (gmail, yahoo, etc) for a plethora of liability, security and confidentiality reasons.

Course Outcomes

Students that successfully complete this course will be able to:
1. Apply descriptive and inferential statistics to data sets from a variety of disciplines.
2. Use statistical software and interpret the output.

Evaluation

Item	Percent	Due Date
Lab assignments	10%	TBA
Midterm exams (total of 3)	40% total	Monday 2 February (10%) Monday 2 March (15%) Friday 27 March (15%)
Final lab examamination	10%	Week of 6 April 2015
Final course examination	40%	TBA
Total	*100%*	

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

Grading System

Descriptor	Alpha Grade	4.0 Scale	Percent	Rubric for Letter Grades
	A+	4.0	> 92.9	Work shows in-depth and critical analysis, well developed ideas, creativity, excellent writing, clarity and proper format.
Excellent	A	4.0	85 – 92.9	
	A-	3.7	80 – 84.9	
	B+	3.3	77 – 79.9	Work is generally of high quality, well developed, well written, has clarity, and uses proper format.
Good	B	3.0	74 – 76.9	
	B-	2.7	70 – 73.9	
	C+	2.3	67 – 69.9	Work has some developed ideas but needs more attention to clarity, style and formatting.
Satisfactory	C	2.0	64 – 66.9	
Progression	C-	1.7	60 – 63.9	
Poor	D+	1.3	55 – 59.9	Work is completed in a general way with minimal support, or is poorly written or did not use proper format.
Minimum Pass	D	1.0	50 – 54.9	
Failure	F	0.0	< 50	Responses fail to demonstrate appropriate understanding or are fundamentally incomplete.

Schedule of Topics

Part I: Gathering and Exploring Data
Statistics: The art and science of learning from data	Chapter 1
Exploring Data with Graphs and numerical summaries	Chapter 2
Association: Contingency, Correlation, and Regression	Chapter 3
Gathering Data	Chapter 4

Part II: Probability, Probability Distributions, and Sampling Distributions
Probability in our daily lives	Chapter 5
Probability distributions	Chapter 6
Sampling distributions	Chapter 7

Part III: Inferential Statistics
Confidence Intervals	Chapter 8
Tests of Significance	Chapter 9
Comparing two groups	Chapter 10

Part IV: Analyzing Associations and Extended Statistical Methods
Analyzing associations between categorical variables	Chapter 11
Analyzing associations between quantitative variables:	Chapter 12
Comparing Groups: Analysis of Variance	Chapter 14
Review	

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

Cell phones and other electronic devices:
Except by express permission of the instructor,
   a) cell phones must be silenced and unavailable for use during class and laboratory sessions.
   b) cell phones and other electronic devices must be turned off and stored in a designated area during all exams.

Student Attendance

Class attendance is useful for two reasons. First, class attendance maximizes a students' learning experience. Second, attending class is a good way to keep informed of matters relating 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 and laboratories.

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.

Students that miss two or more laboratory sessions automatically fail the course. This is irrespective of cause for missing the laboratory sessions.

Attendance will be taken each class and laboratory session in accord with department policy. This will be accomplished by sign-in sheets distributed at the beginning of class/lab. Each student must enter

their own information on the sign-in sheet. Failure to record your information on the sign-in sheets will be recorded as an absence.

Assignments and exams

It is the student's responsibility to make sure they know when assignments are due, and when exams take place. Major exam dates are listed in this course outline. Assignments will be announced in class/lab and related information will be posted on Moodle.

You will have at least 1 week to complete assignments. Assignments are automatically late if not handed in when asked for at the start of class. Late assignments will be penalized 20% per day late and will not be accepted if more than 5 days late.

The lecture and lab final exams are cumulative and must be written to complete the course.

Travel plans are NOT valid excuses for missing exams.
Do not make plans to travel during the final lecture exam period. Exams missed under these circumstances will not be accommodated and therefore completion of the course is not possible.

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

Penalties for academic offences range from a verbal reprimand to dismissal from the College, and in certain circumstances may involve legal action.

Specialized Supports

Counselling and Disability 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.

Authorization

This course outline has been reviewed and approved by the Program Chair.

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[First Name, Last Name], Instructor

_____   Date Authorized

[First Name, Last Name], Chair

_____   Date Authorized

Guy Harmer, Dean

Signed copies to be delivered to:
Instructor
Registrar's Office