LOYOLA UNIVERSITY CHICAGO

QUINLAN SCHOOL OF BUSINESS ADMINISTRATION

ISSCM 241 Business Statistics - Spring 2018
T 4:15 - 6:45 (Sec 104), Th 7:00 - 9:30 pm (Sec 103)
Corboy Law Center Room 306

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Office Phone: 312-915-6188
Office Hours: T 3:00-4:00, Th 5:45-6:45

Course Description
The fundamentals of managerial statistics are presented. Topics may include descriptive statistics, random variables, probability distributions, estimation, hypothesis testing, regression, and correlation analysis. Statistical software is used to assist in the analysis of these problems.

Course Overview
This purpose of this course is to provide students with statistical tools needed by managers. The course emphasizes understanding the process associated with statistical decisions, defining and formulating problems, analyzing the data, and using the results in decision making. Students who have laptops with Excel are invited to bring them to class.

Course Objectives and Learning Outcomes
Students will be able to demonstrate understanding of statistical thinking and data analysis techniques for decision-making under uncertainty.
Students will be able to apply statistical techniques to data sets, and correctly interpret the results.
Students will be able to analyze and apply computer-generated statistical output to solve problems.

Required Materials
OpenIntro Statistics, 3rd Edition, by Diez, Barr and Cetinkaya-Rundel. ISBN: 9781943450039
This book can be downloaded free as a pdf at https://www.openintro.org/stat/textbook.php or purchased in paperback format on Amazon for around $15.

Attendance
Class attendance is mandatory and essential to the value of the learning experience. Students are expected to attend all class sessions in order to pass the course. In the event unavoidable emergencies or conflicts prevent you from attending class, please notify the instructor by e-mail prior to missing the class, and request options for covering missed material. Most of the

subjects in a course are sequential. Therefore, it is important to understand the material covered in the missed class before the next class.

Make-Up Examinations/Assignments

Because Quinlan faculty believe examinations represent a critical component of student learning, required examinations should be taken during the regularly scheduled class period. **Make-up examinations are discouraged**. Exceptions may be granted only by the faculty member or department chair, and only for unavoidable circumstances (illness verified by a signed physician's note, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, or religious observance). A make-up final examination may be scheduled only with the permission of the appropriate Quinlan Assistant or Associate Dean.

Academic Integrity

All members of the Quinlan School shall refrain from academic dishonesty and misconduct in all forms, including plagiarism, cheating, misrepresentation, fabrication, and falsehood…Plagiarism or cheating on the part of the student in individual or group academic work or in examination behavior will result minimally in the instructor assigning the grade of "F" for the assignment or examination. In addition, all instances of academic dishonesty must be reported to the chairperson of the department involved.

For further information about expectations for academic integrity and sanctions for violations, consult the complete Quinlan School of Business Honor Code and Statement of Academic Integrity on the Quinlan website:
http://www.luc.edu/media/lucedu/quinlanschoolofbusiness/pdfs/Honor-Code-Quinlan-July2012.pdf

Course Website

Most of the course materials (syllabus, announcements, lecture notes, exercise questions etc.) will be posted on the course website at Loyola Sakai Learning Management System (Sakai).

Homework

Exercise problems will be assigned, but not graded. The solutions will be provided at Sakai and discussed in class.

Grading Policy

Grading for the course will be based on total points earned by the end of the course. Your final grade will be based on a percentage scale with the scale never going above the following:

A 92% +	C+ 78%
A- 90%	C 72%
B+ 88%	C- 70%
B 82%	D 60%
B- 80%	F below 60%

The final grade will be calculated as follows:

20% - Mid Term Exam 1
20% - Mid Term Exam 2
50% - Final Exam
10% - Participation

Week by Week Course Outline (Tentative*)

Week	Date/Day	Topic	Chapter	Notes
1	Jan 16, 18	Introduction to course and faculty. Data Basics, Collection, Sampling, Observations Experiments	1	
2	Jan 23, 25	Examining numerical data - Graphical Presentation (plots, histogram for frequency distribution…) - Numerical Presentation (Mean, Median, Mode, Range, Standard deviation, variance) Examining categorical data – Contingency Tables (Using pivot tables)	1	Skip pp. 46-54
3	Jan 30, Feb 1	Probability	2	Skip pp. 108-112
4	Feb 6, 8	Distributions of Random Variables - Normal distribution - Central Limit Theorem (pp 171-173, pp 194-197) - Review for Midterm	3 4	Skip pp. 141-157
5	**Feb 13, 15**	**Midterm Exam I (Weeks 1-4)**	1, 2, 3, 4	
6	Feb 20, 22	Foundations for Inference - Central Limit Theorem (Review) (pp. 171-173, pp 194-197) - Estimation of the population mean (point estimate, confidence interval estimate) (pp 174-180)	4	
7	Feb 27, Mar 1	Foundations for Inference – Hypothesis Testing (pp 180-185)	4	Skip pp. 199-202
	Mar 6, 8	Spring Break, No classes		
8	Mar 13, 15	Inference for Numerical Data (when Population is not normally distributed, sample size is small) - One-sample t-confidence Intervals - One-sample t-tests - Difference between two means (two-sample tests)	5	Skip 228-230 Skip pp. 240-246
9	Mar 20, 22	Inference for Categorical Data - Population proportion (estimation & hypoth Test) - Difference between two proportions - Review for midterm exam	6	Skip pp. 286-311
10	**Mar 27, 29**	**Midterm Exam II (Weeks 6-9)**	4, 5, 6	
11	Apr 3, 5	Introduction to Linear Regression - Fitting a line by Least squares regression - Testing the significance	7	
12	Apr 10, 12	Multiple Regression	8	

13	Apr 17, 19	Multiple Regression	8	
14	Apr 24, 26	-Special Issues in Regression -Review for final exam	8	
		Final Exam (Weeks 1-14) **Sec 104: Tuesday May 1, 2018, 4:15-6:15** **Sec 103: Thursday May 3, 2018, 7:00-9:00pm**		

***Please note:** This class may occasionally deviate from the course outlined above. The instructor reserves the right to make changes as needed to the course syllabus.