DEPAUL | School of Continuing and Professional Studies

Introduction to Statistics
Undergraduate Course Information Guide

Course Number: DCM 308, 4 credits, 10 Weeks
Delivery Formats: Online Async

Course Description

This course will teach students the basic concepts of statistics. As a group, we will investigate topics in descriptive statistics, correlation, normal distributions, probability, sampling distributions and hypothesis testing. By the end of this course, students will able to complete a statistical analysis of datasets using Microsoft Excel as the primary tool. We will also devote considerable time to discussing how statistics are used and abused.

Some knowledge of mathematics is essential to understanding statistics so prior completion of the Quantitative Reasoning course or it's equivalent would be very beneficial to having success in this class.

Learning Outcomes

After completing this course, you will be able to:

- Understands the terminology of statistics.
- Can organize data into frequency distributions.
- Can use measures of central tendency and variability to describe frequency distributions.
- Understands the concept of correlation and can use it describe the relationship between two variables.
- Can use sample populations to statistically describe specific tendencies of whole populations.
- Can use statistics to think critically.

• Can use a calculator to make basic statistical calculations.

• Can use basic statistical functions of Microsoft Excel to solve statistics problems.

Learning Strategies and Resources

Students will learn the skills necessary to employing descriptive statistics to analyse data. To do this, students will learn how to use several functions in the Microsoft Excel program. A large part of the class will be devoted to teaching students how to use Excel. This time will be spent in the computer lab on campus. Students should also have a scientific calculator to use in class when we are not in the computer lab. The calculator on most smart phones will suffice in most cases.

Topics in elementary statistics will be introduced weekly. Discussion is a large part of this course. We will discuss how statistics are used in public discourse each week.

Required Readings

Books and learning materials are available at the DePaul bookstore, at http://depaul-loop.bncollege.com, or through alternative sources.

Statistical Reasoning for everyday life 3rd edition w/My Math Lab Student Access Kit (MML SAK), Bennett, Briggs & Triola, Pearson/ Addison Wesley, ISBN: 9780321890139

This text is supported by a MyMathLab (MML) website. You must purchase a book that includes the Student Access Kit to access this website. You can also go to Course Compass (http://www.coursecompass.com/) and purchase access to the website that includes an electronic version of the book. The latter option is cheaper than the former(purchasing the book). The Course ID needed to register for MML will be available before the class begins.

Suggested readings:

Stat-Spotting: A Field Guide to Identifying Freakonomics Dubious Data, Joel Best, Levitt & Dubner, University of California Press. Harper Collins Publisher, ISBN 978-0-520-25746, ISBN 0-06-073132-X.

Both of these books are easy to read and provide a good introduction to statistical analysis.

Additional References:

Statistics for the Utterly Confused, Jaisingh Mcgraw Hill ISBN 0-07-135005-5

This book covers the mathematics covered in this class in more detail than the required text. It is relatively inexpensive. It is recommended for students who want to learn how to work more with a calculator.

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Learning Deliverables

Journal Assignments: There are four Journal Assignments which will be used in class discussions.

Excel Projects: Three Excel Projects will teach students how to use descriptive statistics.

Module Quizzes: There are 9 module quizzes, one quiz for each chapter covered in the class.

Assessment of Student Learning

Distribution of Grade Points

Graded Assignments	Percentage of Final Grade
Journal Assignments	30%
Excel Projects	30%
Module Quizzes	40%

Grading Scale

A = 95 to 100	A- = 91 to 94	B+ = 88 to 90
B = 85 to 87	B- = 81 to 84	C+ = 77 to 80
C = 73 to 76	C- = 69 to 72	D+ = 65 to 68
D = 61 to 64	F = 60 or below	INC

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Course Schedule

Week or Module Title or Theme	Readings / Learning Activities	Graded Assignments

Week 1, Module 1: Intro to Statistics	Bennett, Briggs & Triola, Chapter 1	Module 1 Quiz Journal Assignment 1
Week 2, Module 2: Measurement In Statistics	Bennett, Briggs & Triola, Chapter 2	Module 2 Quiz
Week 3, Module 3: Intro to Graphing Data	Bennett, Briggs & Triola, Chapter 3	Excel Project 1 Journal Assignment 2
Week 4, Module 4: Describing Data/More on Graphing What is Average: Mean, Median and Mode	Bennett, Briggs & Triola, Chapter 4	Module 4 Quiz
Week 5, Module 5: Measures of Central Tendency Discuss Percentile Ranking, Variance, Standard Deviation. What is Normal? Central Limit Theorem	Bennett, Briggs & Triola, Chapter 5	Module 5 Quiz
Week 6, Module 6: The Basics of Probability What is probability? What is the importance of large numbers? The mathematics of basic probability.	Bennett, Briggs & Triola, Chapter 6	Module 6 Quiz
Week 7, Module 7: Correlation Correlation vs. Causality	Bennett, Briggs & Triola, Chapter 7	Module 7 Quiz Excel Project 2

Interpreting Correlation		Journal Assignment 3
Week 8, Module 8: Sampling What is a population? Estimating Means and Proportions.	Bennett, Briggs & Triola, Chapter 8	Module 8 Quiz
Week 9, Module 9: Hypothesis Testing Basics, Testing Means and Proportions.	Bennett, Briggs & Triola, Chapter 9	Module 9 Quiz Journal Assignment 3
Week 10, Module 10: Analyzing Data		Excel Project 4

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Course Policies

For access to all SCPS and DePaul University academic policies, refer to the following links:

SCPS Student Resources Website

DePaul Student Handbook

The D2L Course Website for this course.

Credit for Prior Learning

Students whose home college is SCPS that have not transferred more than 99 credit hours from community college or exam credit, and have not reached 132 credit hours toward graduation may qualify for prior learning credit. If you have prior knowledge you think may be equivalent to the learning outcomes of a SCPS course, you can contact the Office of Prior Learning Assessment at scpspla@depaul.edu or the PLA website for information on how to submit a proposal to use Prior Learning Assessment (PLA) credit for a nominal fee in lieu of regular tuition as an alternative to completing a course.

Course Syllabus

The official syllabus for this course that includes course dates, instructor information and quarter specific details will be provided by the course instructor by the start of the course and available on the course D2L website.

Course Registration

To find out when this course will be offered next, you can go to the SCPS Registration website for details on how to register for the course.

For information on how this course can apply to your program, contact your academic advisor.

School of Continuing and Professional Studies

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