STAT2040: **Business Statistics**

Instructor: Helen Saar   E-mail: saar@dixie.edu

Class time: Section 50: MW 5:15 – 6:55pm   Classroom: Udvar-Hazy 149

Office Hours: W 4:00– 5:00 pm and by appointment   Office: Udvar-Hazy #344

Prerequisites:

CIS1200 (Computer Literacy)

MATH1010 (Intermediate Algebra)

Summary of the class

Organizations have endless streams of data at hand to help their employees achieve success in managing that organization. There are accounting, financial, sales, marketing, HR and IS data available internally. In addition, managers can conduct surveys to provide them with information about their customers. Data is also readily available on the external environment – inflation, unemployment, exchange rates etc. STAT2040 Business Statistics class provides an appreciation of ***the way in which data can be used*** to assist in ***solving business problems*** and improves ***recognition of quantitative aspects within a problem*** to better know when statistical assistance is needed. We will also look into ways to ***communicate statistical results*** in a clear concise manner.

Learning Outcomes (LO)

This course is intended to address the following Bachelor of Business program learning outcomes on the introductory and developmental levels:

1. Students will demonstrate a working level knowledge of the core functional areas of business:
    A. Students will demonstrate a working level knowledge of core functions of statistics.
    B. Students will analyze a complex business situation, identify relevant functional statistical issues and suggest viable courses of action
2. Students will process a complex business situation and develop sound alternatives for action utilizing qualitative and quantitative analysis
3. Students will possess the interpersonal and communication skills necessary to succeed in business:
    A. Students will deliver professional quality oral presentations
    B. Student will prepare professional quality written presentations
    C. Students will identify the essential elements of successful teamwork and will reflect upon their competency and experiences in applying them.

Course Objectives

1. Recognize, calculate and interpret descriptive statistics. [LO 1A]
2. Calculate basic probability events and develop intuition related to probability. [LO 2]
3. Perform statistical case analyses in MS Excel®. [LO 1B, 2, 3B, & 3C]
4. Define and develop hypothesis tests and interpret results. [LO 2]
5. Define and develop correlation and regression tests and interpret output. [LO 1B & 2]
6. Present and explain statistical case data in writing with clarity and fidelity. [LO 3B & 3C]
7. Be exposed to issues relating to ethics in statistical reporting. [LO 1B]

Text

The Textbooks are not mandatory but will help you acquire class materials better. Textbook will have additional examples and problems we will not have time to discuss in class. Reading up on the topics before class will also help you get more out from the lectures and understand better the new material. I have chosen two textbooks. First, the main textbook focuses on the statistics topics covered in this class. It is ok to get an earlier edition of the textbook. The second text is helpful if you are having you feel that your Excel skills need brushing up.

Business Statistics (6th Edition)
By Levine, Krehbiel, and Berenson
Prentice Hall; ISBN: 978-0-13-280726-5

Statistical Analysis: Microsoft Excel 2010
By Carlberg
Prentice Hall, ISBN: 978-0-7897-4720-4

Class Notes and Assignments

All lecture notes, external readings, and assignments can be downloaded from *Canvas®*.
Quizzes will be on *Canvas®* and need to be taken by the deadline.
Problem sets need to be posted on *Canvas®* by the deadline, unless said otherwise.
Assignment deadlines will NOT be changed.

Excel

We will use Excel with Data Analysis Add-In to do almost all of the statistical analyses, charts, and graphs required in class. You should review the basic Excel skills that you have learned prior to STAT2040. *"Statistical Analysis: Microsoft Excel 2010"* textbook can be of help with improving your Excel skills.

Problem Sets

Most of the statistics concepts can only be mastered through practice and solving of problems related to the topic. It is beneficial to solve as many exercises, questions and problems at the back of each chapter as possible. This will help you develop the intuition and skills that will be valuable both in corporate world and your personal life.

There will be **8 to 10** Problem Sets. The problem sets will emphasize the learning of MS Excel skills and COMMUNICATING the results <u>correctly, clearly and professionally</u>. The way to get high grades on these assignments is to **start early, ask questions when you get confused, and turn in the assignment on time**. Another good reason for doing well on Problem Sets is that most of the exam questions will be related and/or use the computer printouts from the Problem Sets.

I encourage you to **work in a group** to solve the problem sets. BUT make sure that you learn the Excel skills by doing the problem sets yourself and that **your written work is in your own words**. If there are multiple papers with substantial overlap, **only one grade will be assigned and that grade will be equally divided among overlapped papers.**

The deadlines for the problem sets are listed in the ***Tentative Schedule*** attached to the syllabus. The problem sets are to be turned in by the deadline to *Canvas®*. <u>Late submission is not accepted</u>.

One lowest problem set grade will be dropped and will not count toward the final course grade.

<u>Only a Word file</u> with integrated Excel work will be accepted. Submit your work with the problems clearly labeled. If part of a problem is to do a chart, then answer that part by referring to the integrated Excel output of the chart. Failure to make your work clear may result in a lower grade.

Quizzes

Quizzes will be posted on *Canvas®*. They are designed to check your knowledge of key terms and definitions. **Two lowest quiz grades** will be dropped and will not count toward the final course grade.

Examinations

There will be three exams: 2 mid-term exams and final exam. The exams will not be comprehensive. Each exam will consist of a combination of objective (multiple choice) questions and analytical problems. The exams will test your ability to **interpret the results** of your statistical analysis and **make managerial conclusions** based on these results. You must have a written medical excuse to be absent from the exam.

Class Project

During the semester we will learn to use different statistical analysis tools. For the class project you will pick a data set in the beginning of the semester and analyze the data throughout the semester using these different tools as we cover them in class. By the end of the semester you should have a full report. If you take the assignment seriously this report can be something you could show to potential employers in order to demonstrate your skills.

Extra credit Assignments

Throughout the semester there will be **two** extra credit assignments that will be posted on *Canvas®*. Completing these assignments is ***voluntary***. They are to be turned in to *Canvas®* by the given deadline. Each extra credit assignment will be graded and can add up to 2% each to your final grade.

Course Grade

Your course grade will be based on the total points accumulated on the various assignments completed. The following weights pertain to those assignments:

- ◈ Problem sets: ……………………... 15%
- ◈ Quizzes: ………………………… 10%
- ◈ Project: …………………………. 10%
- ◈ Attendance and participation ……… 5%
- ◈ <u>3 Exams (20% each) …………… .. 60%</u>
  - 100%
- ◈ <u>Extra Credit assignments: ………….. 4%</u>

104%

The letter grades will be assigned as follows:

98% and up – A+	86.0-88.9% – B+	75.0-77.9% – C+	55.0-64.9% – D
93.0 -97.9% – A	82.0-85.9% – B	71.0-74.9% – C	Below 55% – F
89.0-92.9% – A-	78.0-81.9% – B-	65.0-70.9% – C-	

Class Rules

Students who attend class and participate tend to do better in this class. The lectures are designed to give you the ability to recognize when to use the proper statistical procedures, to demonstrate how MS Excel is used to facilitate the analysis of data, and to see how to communicate the results to others in a clear way.

Cell phones and other gadgets should be turned OFF during class! You can work on your personal laptop in class IF you are using your laptop for class purposes. If I catch you using computers (and other gadgets) for browsing social networks or other not class related websites, I will mark you as not present in class and it will affect your attendance score.
Please be on time to class!

University approved absences

Dixie State University Policy explains in detail what needs to happen if you anticipate being absent from class because of a university-sponsored activity (athletic events, club activities, field trips for other classes, etc). Please read this information and follow the instructions carefully! The policy can be found at: http://www.dixie.edu/humanres/policy/sec5/523.html

Disability Accommodations

Students with medical, psychological, learning or other disabilities desiring reasonable academic adjustment, accommodations, or auxiliary aids to be successful in this class will need to contact the **Disability Resource Center** Coordinator for eligibility determination. Proper documentation of impairment is required in order to receive services or accommodations. DRC is located in the North Plaza Building. Visit or call 652-7516 to schedule appointment to discuss the process. DRC Coordinator determines eligibility for and authorizes the provision of services.

Classroom expectations

It is the responsibility of an instructor to manage the classroom environment to ensure a good learning climate for all students. This means not talking when the teacher is talking, following instructions, and speaking and acting respectfully to the professor and fellow students. For more details, please see the disruptive behavior policy at:
http://www.dixie.edu/humanres/policy/sec3/334.html

Academic Integrity

In order to ensure that the highest standards of academic conduct are promoted and supported at the University, students must adhere to generally accepted standards of academic honesty, including but not limited to, refraining from cheating, plagiarizing, falsification, misrepresentation, and/or inappropriately colluding or collaborating. The University shall consistently hold students accountable for instances of academic dishonesty and apply appropriate consequences. For more information, see the Student Academic Misconduct section of DSU policy at http://www.dixie.edu/humanres/policy/sec5/533.html#appeals.

In my class I define cheating and plagiarism as follows:

(1) **Cheating** includes, but is not limited to, giving unauthorized help during an examination, obtaining unauthorized information about an examination before it is administered, using inappropriate sources of information during an examination, altering the record of any grade, altering an answer after an examination has been submitted, and misrepresenting the facts in order to obtain exemptions from course requirements.

(2) **Plagiarism** includes, but is not limited to, submitting, to satisfy an academic requirement, any document that has been copied in whole or in part from another individual's work without identifying that individual; neglecting to identify as a quotation a documented idea that has not been assimilated into the student's language and style; paraphrasing a passage so closely that the reader is misled as to the source; submitting the same written or oral material in more than one course without obtaining authorization from the instructors involved.

Class Communication/Dmail

Important class information will be sent to your Canvas Inbox and/or via Canvas Announcement function. You will be held responsible for information sent to your Canvas account, so please check it often.

Additional Resources

Academic Calendar - http://new.dixie.edu/reg/?page=calendar
Library: http://library.dixie.edu
Writing Center - http://new.dixie.edu/english/dsc_writing_center.php
Testing Center - http://dixie.edu/testing
Tutoring Center - http://dsc.dixie.edu/tutoring/
Policy for Absences Related to College Functions: http://www.dixie.edu/humanres/policy/sec5/523.html
Disruptive behavior policy /classroom expectations: http://www.dixie.edu/humanres/policy/sec3/334.html
Academic dishonesty / Academic integrity policy: http://www.dixie.edu/humanres/policy/sec3/334.html
The Office of Ombuds; http://www.dixie.edu/ombuds/