ORMS 3310
DATA ANALYSIS AND STATISTICS
FALL 2016
Section W01 – Online Course

INSTRUCTOR: Robert Cutshall, Ph.D.         OFFICE HOURS: 9:30am – 11:30am – M & W
OFFICE: 347 OCNR                          1:00pm – 2:00pm – M & W
OFFICE PHONE: 825-2665 (and by appointment)
e-mail: robert.cutshall@tamucc.edu
Course Website: bb9.tamucc.edu

COURSE COMMUNICATION:

The best means of communication with the instructor in this course is online via e-mail. Any time you send an e-mail the subject line of the e-mail message should read “ORMS 3310.W01 and Your Name”. The instructor may also be reached by telephone during the above posted office hours and/or by appointment. You may also stop by the office if you are on campus.

COURSE DESCRIPTION:

A study of descriptive statistics, probability distributions, the normal distribution, confidence intervals and hypothesis testing, regression analysis and chi-square.

COURSE PREREQUISITES:

Prerequisite: MATH 1314 and MISY 2305 or equivalents

REQUIRED TEXT:


Link to use to purchase the textbook (only use the link below to purchase the textbook to ensure you obtain the correct textbook):


MAJOR FIELD TEST:

The Major Field Test (MFT) is required for all students pursuing the Bachelor of Business Administration degree and will be administered in the MGMT 4388 course, “Administrative Policy and Strategy”. To prepare for this test, business majors are advised to retain their class notes, textbooks and other relevant materials from this class and the other business core courses. Students will enroll in BUSI 0088 “MFT Review” (concurrently with MGMT 4388) during their final semester; this online course should fine-tune their readiness for the MFT by encouraging them to complete the online MFT review materials and required quizzes available on the course Blackboard learning modules.

COURSE OBJECTIVES:

1. You will enhance your knowledge of quantitative concepts and skills.
2. You will develop an understanding of key statistical concepts used in business.
3. You will learn basic statistical methods of data analysis, founded in probability theory.
4. You will draw statistical inferences using the results obtained by the application of basic statistical methods.
5. You will apply basic statistical methods to data with the help of the statistical applications found in Microsoft Excel.
6. This course will assist you with your preparation for the Major Field Test to be administered in MGMT 4388.

EXPECTATIONS OF STUDENTS:

1. You are **EXPECTED** to have read the material **BEFORE** it is covered in class.
2. You are responsible for all material presented in this online course.
3. You are responsible for turning in all assignments on time.
4. You are responsible for staying informed of assignments, due dates, and any changes to the syllabus communicated via BlackBoard and/or via e-mail.
5. You are responsible for doing everything necessary to learn statistics.
6. You are responsible for knowing and abiding by the rules and policies outlined in this syllabus.

RELATIONSHIP TO OTHER COURSE WORK:

Descriptive and inferential statistics are foundations of business analysis and communications. Specifically, the topics in the course supportive of studies in accounting, finance, management, marketing, and operations management

INSTRUCTIONAL METHODOLOGY:

This course will be conducted fully online and as such you will be required to keep up with the scheduled topics and submit the required assignments no later than the posted deadline. While there is more flexibility in a fully online course, due dates will be set for the assignments and it is your responsibility to submit any and all assignments on or before the assigned due date. You are encouraged to ask questions and to participate in any online discussions on statistical methodologies and their applications. In addition, you are encouraged to pay attention to commercials and news items in printed as well as audio-visual media to become aware of the wide use of statistics in our daily lives.

QUIZZES:

Part of your course performance will be evaluated on ten (10) quizzes with each quiz covering one (1) chapter from the textbook. There will be only one (1) take allowed for each quiz and you will have a limited amount of time to complete each quiz. The quiz formats will generally consist of multiple choice questions. The assigned sections in the textbook and the assignments will be the basis of these quizzes. **You may use your book and notes for these quizzes but keep in mind that the quiz time is limited and you may not have enough time to research every question on the quizzes.**

MAKEUP QUIZZES:

Quizzes are not to be missed for the convenience of the student. You are expected to schedule other activities around the quiz due dates. If a quiz is not submitted by the due date, a grade of **ZERO** will be recorded for that quiz.

SUGGESTED PRACTICE PROBLEMS:

It is the student’s responsibility to work the suggested practice questions, exercises, and the “Quiz Yourself” problems. This is how quantitative topics are learned (through practice). It is the student’s responsibility to ask questions regarding any issues encountered when working the suggested practice questions.

CHAPTER ASSIGNMENTS:

It is the student’s responsibility to work the chapter assignments and to submit them for a grade no later than the posted due date. This is how quantitative topics are learned (through practice). It is the student’s responsibility to ask questions regarding any issues encountered when working the assignments study questions.

STATISTICS CASE PROBLEMS:

You **MAY** be assigned various case problems to complete throughout the semester. You will use Microsoft Excel to help you with the statistical calculations. However, you should keep in mind the calculations are only part of the solution. The true value lies in the interpretation of the statistics that you calculate. Hence, you are required to create a professional Managerial
Report to go along with your calculations. Each case problem will give you the \textit{MINIMUM} requirements that should be included in the Managerial Report. \textit{NOTE:} Turning in the minimum requirements (as defined in the case problem) \textit{DOES NOT} guarantee that you will receive full credit for the assignment. You are encouraged to think critically about the material you learn and apply it as necessary to the case problem solutions.

All case solutions are to be typed as comments into the Microsoft Excel worksheet where the calculations are done. All case solutions are to be turned in as a soft copy that must be e-mailed (name the file with your last name and the chapter e.g. “Smith-ch-3-case.xls”) to the instructor on or before the due date. If you plan not to attend class on the date an assignment is due, it is your responsibility to turn in all parts of the assignment \textbf{BEFORE} the due date. \textbf{LATE WORK WILL NOT BE ACCEPTED! NO EXCEPTIONS!}

\section*{GRADING:}

Your grade in this course will be based on your performance on ten (10) quizzes, ten (10) chapter assignments, and four (4) interpreting the results exercises. \textbf{PERCENTAGES ARE NOT USED IN GRADING IN THIS COURSE. IF YOU WANT A PARTICULAR LETTER GRADE YOU MUST EARN THE MINIMUM NUMBER OF POINTS FOR THAT LETTER GRADE.} For example, for a letter grade of “A” you \textbf{must} earn at least 900 points (in other words 899 points IS NOT an “A”, 899 points IS a letter grade of “B”). The distribution of points per assignment and the tentative grading scale are as follows:

\begin{tabular}{|c|c|}
\hline
Quizzes (10 at 60 points each) & 600 points \\
Chapter Assignments (10 at 30 points each) & 300 \\
Interpreting the Results (4 at 25 points each) & 100 \\
Total points & 1000 points \\
\hline
\end{tabular}

The tentative grading scale is as follows:

\begin{tabular}{|c|c|}
\hline
\textbf{Grade} & \textbf{Points} \\
A & 900-1000 \\
B & 800-899 \\
C & 700-799 \\
D & 600-699 \\
F & below 600 \\
\hline
\end{tabular}

\section*{TECHNOLOGY APPLICATIONS:}

The student is expected to have a good working knowledge of popular microcomputer software such as a word processing and spreadsheets. During the course of the semester, the student must draw upon these computer skills. Specifically, students are to use current technological aids to improve the quality of their presentations and problem-solving. Students are encouraged to communicate with the instructor using electronic media.

\section*{ORAL AND WRITTEN COMMUNICATION CONTENT:}

Examination problems are evaluated for clarity

\section*{ETHICAL PERSPECTIVE:}

Aspects of reporting statistical results and methodologies are discussed.

\section*{GLOBAL PERSPECTIVES:}

Assigned reading materials contain a global perspective, as do some classroom examples.

\section*{DEMOGRAPHIC DIVERSITY PERSPECTIVES:}

Assigned reading materials contain a global perspective, as do some classroom examples.

\section*{POLITICAL, SOCIAL, LEGAL, REGULATORY, AND ENVIRONMENTAL PERSPECTIVES:}

Assigned reading materials contain these perspectives, as do some classroom examples.
ATTENDANCE POLICY:

Regular visits and review of the materials on the course management website have been shown to increase the chances of successful completion of this course. While there is a level of self-paced progression through the material, it is important that you keep track of the dates when assignments are due. You may turn in the assignments early if you finish them early but do complete them by the due date at the latest. Any suggestions you have on how to provide the class a better learning experience are always welcome.

COB CODE OF ETHICS:

This course, and all other courses offered by the College of Business (COB), requires all of its students to abide by the COB Student Code of Ethics (available online at www.cob.tamucc.edu). Provisions and stipulations in the code are applicable to all students taking College of Business courses regardless of whether or not they are pursuing a degree awarded by the COB. Any and all violations of the COB Code of Ethics WILL result in an incident report being filed with the COB Dean and the VP of Student Affairs. In addition, a grade of zero (0) for the assignment will be recoded and/or a grade of zero (0) for the ENTIRE ORMS 3310 course will be recorded. NO EXCEPTIONS!

AMERICANS WITH DISABILITIES ACT COMPLIANCE:

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statue that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Disability Services Office at 361.825.5816 or visit the office in Driftwood 101.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

GRADE APPEALS:

As stated in University Rule 13.02.99.C2, Student Grade Appeals, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Rule 13.02.99.C2, Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules Web site at http://www.tamucc.edu/provost/university_rules/index.html. For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

INSTRUCTOR STATEMENT:

It is my intention to devote the time, effort, and resources to properly instruct each student, and the class as a whole, in the course subject matter and industrial applications in general. I encourage you to devote the time and effort necessary to succeed in this course. The material in this course IS cumulative. Hence, you should strive to keep up with the material and not fall behind.

I encourage you to attend class and participate in all aspects of the learning process.

Best wishes for your success in the class.

GENERAL COMMENTS:

1. Doing the assignments is essential to succeeding in this course. You are encouraged to keep up with the suggested homework problems and check the answers provided in the check your work link.
2. You should not hesitate to ask questions should you have any.
3. You should not hesitate contact me outside of class if you need more assistance in learning the material.

CLASS SCHEDULE:

ORMS 3310 – Data Analysis and Statistics – Fall 2016
The following class schedule has been prepared to serve as a guide for the semester. Adjustments may be made to this schedule as necessary. Quizzes will cover all material indicated on the assignments below (regardless of whether or not it was discussed in class) in addition to any material covered in class lectures.

**TENTATIVE CLASS SCHEDULE***

<table>
<thead>
<tr>
<th>Week:</th>
<th>Topic</th>
<th>Chapter</th>
<th>Section</th>
<th>Assignments</th>
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</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Introduction to Statistics</td>
<td>Chapter 1</td>
<td>1.1</td>
<td>Read Chapter 1</td>
</tr>
<tr>
<td>August 24</td>
<td></td>
<td></td>
<td>1.2</td>
<td>Watch the assigned videos in the individual chapter sections</td>
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<td>to August</td>
<td></td>
<td></td>
<td>1.3</td>
<td>Watch the Chapter 1 video titled “How data mining works”</td>
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<td>28</td>
<td></td>
<td></td>
<td>1.4</td>
<td>Complete the Chapter 1 ‘Practice’ Problems AND the ‘Quiz Yourself’ Exercises in the assigned chapter sections</td>
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<td></td>
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<td>1.5</td>
<td>Complete Assignment 1: Ch. 1 Data and Statistics</td>
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<td></td>
<td>1.6</td>
<td>Complete Quiz - Chapter 1 (timed)</td>
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<td>1.7</td>
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<td>1.8</td>
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<tr>
<td>Week 2</td>
<td>Charts and Graphs</td>
<td>Chapter 2</td>
<td>2.1</td>
<td>Watch the Chapter 2 Video titled “Why Does This Matter? ”</td>
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<tr>
<td>August 29</td>
<td></td>
<td></td>
<td>2.2</td>
<td>Read Chapter 2</td>
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<tr>
<td>to September</td>
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<td></td>
<td>2.4</td>
<td>Watch the assigned videos in the individual chapter sections</td>
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<td>04</td>
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<td>2.5</td>
<td>Complete the Chapter 2 ‘Practice’ Problems AND the ‘Quiz Yourself’ Exercises in the assigned chapter sections</td>
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<td>Complete Assignment 2 - Chapter 2 - Tables and Graphs</td>
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<td>Complete Quiz - Chapter 2: Tables and Graphs (timed)</td>
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<tr>
<td>Week 3</td>
<td>Descriptive Statistics</td>
<td>Chapter 3</td>
<td>3.1</td>
<td>Watch the Chapter 3 Video titled “Why Does This Matter? ”</td>
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<tr>
<td>September</td>
<td></td>
<td></td>
<td>3.2</td>
<td>Read Chapter 3</td>
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<tr>
<td>05 to</td>
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<td></td>
<td>3.3</td>
<td>Watch the assigned videos in the individual chapter sections</td>
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<tr>
<td>September</td>
<td></td>
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<td>3.5</td>
<td>Complete the Chapter 3 ‘Practice’ Problems AND the</td>
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<td>11</td>
<td></td>
<td></td>
<td>3.6</td>
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<tr>
<td>Week(s)</td>
<td>Topic</td>
<td>Chapters</td>
<td>Exercises</td>
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| Weeks 4 and 5  
September 12 to September 25 | Probability | Chapter 4 | 4.1  
4.2  
4.3  
4.4 | Watch the Chapter 4 Video titled  
“Why Does This Matter?”  
Read Chapter 4  
Watch the assigned videos in the individual chapter sections  
Complete the Chapter 4 ‘Practice’ Problems AND the  
‘Quiz Yourself’ Exercises in the assigned chapter sections  
Complete Assignment: Chapter 4 - Intro to Probability  
**Complete Quiz: Chapter 4 - Intro to Probability (timed)** |
| Week 6  
September 26 to October 02 | Discrete Distributions | Chapter 5 | 5.1  
5.2  
5.3  
5.4 | Watch the Chapter 5 Video titled  
“Why Does This Matter?”  
Read Chapter 5  
Watch the assigned videos in the individual chapter sections  
Complete the Chapter 5 ‘Practice’ Problems AND the  
‘Quiz Yourself’ Exercises in the assigned chapter sections  
Complete Interpreting The Results - Chapter 5  
Complete Assignment - Chapter 5 - Discrete Probability Distributions  
**Complete Quiz 5: Chapter 5 - Discrete Probability Distributions (timed)** |
| Week 7  
October 03 to October 09 | Continuous Distributions | Chapter 6 | 6.2 | Watch the Chapter 6 Video titled  
“Why Does This Matter?”  
Read Chapter 6  
Watch the assigned videos in the individual chapter sections |
| Weeks 8 and 9  
October 10 to  
October 23 | Sampling and Sampling Distributions | Chapter 7 | 7.1  
7.2  
7.3  
7.4  
7.5  
7.6  
7.7 |
|-------------------------------------------------|-----------------|---------|

- Complete the Chapter 6 ‘Practice’ Problems **AND** the ‘Quiz Yourself’ Exercises in the assigned chapter sections
- Complete Assignment - Chapter 6 - Normal Probability Distribution
- **Complete Quiz - Chapter 6 - Normal Probability Distributions (timed)**

| Week 10  
October 24 to  
October 30 | Estimation for Single Populations | Chapter 8 | 8.1  
8.2  
8.3 |
|-------------------------------------------------|-----------------|---------|

- Watch the Chapter 7 Video titled “Why Does This Matter?”
- Read Chapter 7
- Watch the assigned videos in the individual chapter sections
- Complete the Chapter 7 ‘Practice’ Problems **AND** the ‘Quiz Yourself’ Exercises in the assigned chapter sections
- Complete Interpreting The Results - Chapter 7
- Complete Chapter 7 - Sampling and Sampling Distributions
- **Complete Quiz Chapter 7 - Sampling and Sampling Distributions (timed)**

- Watch the Chapter 8 Video titled “Why Does This Matter?”
- Read Chapter 8
- Watch the assigned videos in the individual chapter sections
- Complete the Chapter 8 ‘Practice’ Problems **AND** the ‘Quiz Yourself’ Exercises in the assigned chapter sections
- Complete Interpreting The Results - Chapter 8
- Complete Assignment - Chapter 8 - Interval Estimation
- **Complete Quiz - Chapter 8 - Interval Estimation (timed)**
| Weeks 11 and 12 | Hypothesis Testing for Single Populations | Chapter 9 | 9.1  
|                 |                                            |          | 9.2  
| October 31 to November 13 |                                            |          | 9.3  
|                    |                                            |          | 9.4  
|                    | Watch the Chapter 9 Video titled “Why Does This Matter?” |                    |  
|                    | Read Chapter 9 |                    |  
|                    | Watch the assigned videos in the individual chapter sections |                    |  
|                    | Complete the Chapter 9 ‘Practice’ Problems AND the ‘Quiz Yourself’ Exercises in the assigned chapter sections |                    |  
|                    | Complete Interpreting The Results - Chapter 8 |                    |  
|                    | Complete Assignment - Chapter 9 - Hypothesis Testing |                    |  
|                    | **Complete Quiz - Chapter 9 - Hypothesis Testing (timed)** |                    |  
| Weeks 13, 14 and 15 | Simple Linear Regression | Chapter 12 | 12.1  
| November 14 to December 04 |                                            |          | 12.2  
|                        |                                            |          | 12.3  
|                        |                                            |          | 12.4  
|                        | Watch the Chapter 12 Video titled “Why Does This Matter?” |                    |  
|                        | Read Chapter 12 |                    |  
|                        | Watch the assigned videos in the individual chapter sections |                    |  
|                        | Complete the Chapter 12 ‘Practice’ Problems AND the ‘Quiz Yourself’ Exercises in the assigned chapter sections |                    |  
|                        | Complete Assignment - Assignment - Chapter 12 - Simple Linear Regression |                    |  
|                        | **Complete Quiz - Chapter 12 - Simple Linear Regression (timed)** |                    |  

*This is our plan and is subject to change.*