MGMT 2331 DS1 – Applied Business Statistics

Course Description/Overview

Introduction to statistical analysis including such topics as: descriptive statistics, probability distributions, sampling, statistical inference, and correlation and regression analysis.

Prerequisites: Business Computer Information Systems 1305 and Mathematics 1324.

Prerequisite Knowledge

MATH 1324 & BUSI 1305

Course Technology

ASU Blackboard, MS Office (Excel), McGraw-Hill Connect, Blackboard Collaborate

Class Meeting Times

10/18 – 12/10/2021 (the 2nd 8-week Term, Fall 2021), Online every week (Blackboard, McGraw-Hill Connect, Collaborate recorded lectures)

Technical Support

The Technology Service Center (TSC) may be contacted by calling (325) 942-2911 or 1-866-942-2911 or by email at helpdesk@angelo.edu

Faculty/Instructor Information

Name: Juehui (Richard) Shi, Ph.D.
Title: Assistant Professor of Management
Office: RAS 207
Phone: 325-486-6096
E-Mail: jshi@angelo.edu
Office Hours: Monday 2:00 to 5:00 PM; Wednesday 3:00 to 5:00 PM; by appointment. Can be reached by email on weekdays 10:00 AM to 6:00 PM.

Course Objectives

Learning Objectives:
Upon completion of this course, students will be able to...

- Define common statistical terms.
- Identify different types of data and the applicable statistical techniques to summarize and use such data depending upon the situation.
- Use computer software to generate statistical output.
- Explain basic probability concepts and be able to use such concepts in management situations.
• Create confidence intervals and test statistical hypotheses.
• Compute and interpret the results of bivariate regression and correlation analysis for explaining the relationship among variables.

Assessment Methods
Homework assignments (SmartBook readings, McGraw-Hill Connect Excel homework) and exams (midterm, final) will be used to assess learning in this course.

Course Textbook and Required Readings
Title: Business Statistics and Analytics in Practice
Author: Bowerman
Edition: 9th

The McGraw-Hill Connect access is required for all the homework assignments. The e-book version of the textbook is included when registering for the McGraw-Hill Connect account.

How to register the McGraw-Hill Connect account: On ASU Blackboard, follow the Connect registration steps “Student Registration for Connect through Blackboard” in the “Connect Registration Tutorial” folder located in the “Modules” tab.

Grading Policies
This course employs the following to measure student learning.

<table>
<thead>
<tr>
<th>Grade Calculations</th>
<th>Percent of Grade</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Homework Grade</td>
<td>50%</td>
<td>Weekly</td>
</tr>
<tr>
<td>Midterm</td>
<td>25%</td>
<td>Blackboard Due 11:59 PM 11/15/2021</td>
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<tr>
<td>Final</td>
<td>25%</td>
<td>Blackboard Due 11:59 PM 12/10/2021</td>
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</tbody>
</table>

Angelo State University employs a letter grade system. Grades in this course are determined on a percentage scale:

A = 90 – 100 %
B = 80 – 89 %
C = 70 – 79 %
D = 60 – 69 %
F = 59 % and below.
**Response Time**
I will respond to email questions within one business day, and homework will be graded and posted within one week after the due date. You can access the correct homework answers by clicking on the homework assignments again after the due dates.

**Missed/Late Work**
No late work will be accepted. Assignments are posted early with reasonable deadlines to provide adequate time to complete the homework.

**Participation/Absenteeism**
Besides the lecture slides and SmartBook readings, lectures for each Chapter are recorded and posted on Blackboard every week. Although there is no grade for participation, regular access of the lecture slides, readings, homework, and recorded lectures make you learn better and excel in this course. Exams are based on the recorded lectures and homework assignments. You can also email me to ask any questions about these course materials. Research has shown that students, who regularly attend classes, generally perform better.

**Exams**
Exams are comprehensive and open book notes on Blackboard. No collaboration is allowed. The mid-term exam includes Chapters 1, 2, 3, 4, 6 and 7. The final exam includes Chapters 8, 9, 10, 14 and 15.

**Group Project**
N/A

**Homework**
Homework will be a combination of McGraw-Hill Connect SmartBook reading assignments and Connect Excel-based assignments. The due dates for the homework are detailed on pages 6 to 8 of this syllabus. The Excel file with the formula, results, charts and tables is required to be emailed to me after completing each homework. You must show how you get the results submitted to Connect HW. The due time is always 11:59 PM (CST) on the due date.

**Course Policies**

*Academic Honesty and Integrity*
Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding and complying with the university Academic Honor Code, which is in both print and web versions of the ASU Student Handbook. Academic integrity is expected. This includes, but is not limited to, any form of cheating, plagiarism, unauthorized sharing of work, or unauthorized possession of course materials. The professor assumes that all students can be trusted. Please do no violate this trust. Violation of academic integrity will result in a failing grade for the course. It is the professor’s intention to be as fair and impartial as is humanly possible. Therefore, all students will be asked to adhere to the same set of guidelines and rules UNLESS there are disabilities or documented extenuating circumstances that have been discussed with the professor.
and the Student Life Office. Please make sure you inform the professor as soon as any situation arises. Do NOT wait until the problem is compounded by poor class performance, poor attendance, etc.

**Plagiarism**
Plagiarism is a serious topic covered in ASU’s Academic Integrity policy in the Student Handbook. Plagiarism is the action or practice of taking someone else’s work, idea, etc., and passing it off as one’s own. Plagiarism is literary theft.

In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list.

Papers are subject to be evaluated for originality via Turnitin. Resources to help you understand this policy better are available at the ASU Writing Center.

**Copyright Policy**
Students officially enrolled in this course should make only one printed copy of the given articles and/or chapters. You are expressly prohibited from distributing or reproducing any portion of course readings in printed or electronic form without written permission from the copyright holders or publishers.

**Code of Ethics**
Students, faculty, administrators and professional staff of the Norris-Vincent College of Business should always:

- Be forthright and truthful in dealings with all stakeholders
- Take responsibility for one’s actions and decisions
- Serve as an example of ethical decision-making and behavior to others
- Admit errors when they occur, without trying to conceal them
- Respect the basic dignity of others by treating them as one would wish to be treated

**Courtesy and Respect**

Courtesy and respect are essential ingredients to this course. We respect each other’s opinions and respect others points of view at all times while in our class sessions. The use of profanity and harassment of any form is strictly prohibited (Zero Tolerance), as are those remarks concerning one's ethnicity, life style, religion, etc., violations of these rules will result in appropriate disciplinary actions.

**Accommodations for Disability**

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA), and subsequent legislation. Student Affairs is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability, and it is the student’s responsibility to initiate such a request by emailing studentservices@angelo.edu, or by contacting:
Title IX at Angelo State University:
Angelo State University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from sex discrimination of any kind. The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation, gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination including: sexual assault, sex-based discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance. This is done in order to connect students with resources and options in addressing the allegations reported. As a student, you are encouraged to report any incidents of sexual misconduct directly to ASU’s Office of Title IX Compliance and the Title IX Coordinator. You may do so by contacting:

Michelle Miller, J.D.
Title IX Coordinator
Mayer Administration Building, Room 210
325-942-2022
michelle.miller@angelo.edu

You may also file a report online 24/7 at www.angelo.edu/incident-form.

If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic at 325-942-2171, Counseling Services at 325-942-2371 or the ASU Crisis Helpline at 325-486-6345.

The Office of Title IX Compliance also provides accommodations related to pregnancy (such as communicating with your professors regarding medically necessary absences, modifications required because of pregnancy, etc.). If you are pregnant and need assistance or accommodations, please contact the Office of Title IX Compliance utilizing the information above. For more information about Title IX in general you may visit www.angelo.edu/title-ix.

Student absence for religious holidays
As stated in the Angelo State University Operating Policy and Procedures (OP 10.19 Student Absence for Observance of Religious Holy Day), a student who intends to miss class to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence.

Course Drop
To view information about how to drop this course or to calculate important dates relevant to dropping this course, you can visit http://www.angelo.edu/services/registrars_office/course_drop_provisions.php.
Incomplete as a Course grade
As stated in the Angelo State University Operating Policy and Procedure (OP 10.11 Grading Procedures), the grade "I" is given when the student is unable to complete the course because of illness or personal misfortune. For undergraduates, an "I" that is not removed before the end of the next long semester automatically becomes an "F". A graduate student will be allowed one year to remove a grade of "I" before it automatically becomes an "F". To graduate from ASU, a student must complete all "I's".

Grade Appeal Process
As stated in the Angelo State University Operating Policy and Procedures (OP 10.03 Student Grade Grievances), a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, has experienced inequitable evaluation procedures, or inappropriate grading practices, 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 grade appeal process and the number of days allowed for completing the steps in the process, see Operating Procedure 10.03 at: http://www.angelo.edu/content/files/14196-op-1003-grade-grievance.

Course Outline

<table>
<thead>
<tr>
<th>Week</th>
<th>Day</th>
<th>Topic</th>
<th>Sections</th>
<th>Detail</th>
<th>Smart Book DUE</th>
<th>Excel HW DUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10/18/2021 M</td>
<td>Chapter 1 – Introduction to Business Statistics</td>
<td>1.1, 1.2, 1.3, 1.4, 1.6</td>
<td>Why? Population vs. Samples, Measurement Scales, Copy/paste, Excel formula</td>
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<td>10/20/2021 W</td>
<td>Chapter 2 – Descriptive Stats – Tables and Graphs</td>
<td>2.1, 2.2, 2.5, 2.6, 2.7</td>
<td>(Relative) Frequency Distribution, Histograms, Tables (and Slicers), PivotTables, Frequency() formula, Scatterplot, slope(), intercept(), equation, R2, predicting</td>
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<td>10/22/2021 F</td>
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<td>Ch1 HW, Ch2 HW</td>
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<tr>
<td>2</td>
<td>10/25/2021 M</td>
<td>Chapter 3 – Descriptive Stats – Numerical Methods</td>
<td>3.1, 3.2, 3.3, 3.4, 3.5</td>
<td>Mean, median, mode, range, standard deviation, variance, empirical rule, z-score,</td>
<td>SB-Ch1 SB-Ch2</td>
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<tr>
<td>Date</td>
<td>Day</td>
<td>Notes</td>
<td>Assignments</td>
<td>HW</td>
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<td>10/27/2021</td>
<td>W</td>
<td>Chapter 4 – Probability</td>
<td>4.1, 4.2, 4.3, 4.4 Probability – determining? Experiments/samples spaces/events Probability rules, Venn diagrams, Conditional probability and multiplication rule</td>
<td>HW-Ch1  HW-Ch2</td>
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<td>10/29/2021</td>
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<td>Recorded Lecture</td>
<td>Ch3 HW, Ch4 HW</td>
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<tr>
<td>11/1/2021</td>
<td>M</td>
<td>Chapter 6 – Discrete Random Variables</td>
<td>6.1, 6.2, 6.3 Random Variables, Discrete vs. Continuous, Discrete Probability Distributions, Binomial Distribution</td>
<td>SB-Ch3  SB-Ch4</td>
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<tr>
<td>11/3/2021</td>
<td>W</td>
<td>Chapter 7 – Continuous Random Variables</td>
<td>7.1, 7.2, 7.3 Continuous Probability, Uniform Distribution, Normal Distribution</td>
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<td>11/5/2021</td>
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<td>Recorded Lecture</td>
<td>Ch6 HW, Ch7 HW</td>
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<tr>
<td>11/8/2021</td>
<td>M</td>
<td>Homework Assignments</td>
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<td>SB-Ch6  SB-Ch7</td>
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<td>HW-Ch6  HW-Ch7</td>
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<tr>
<td>11/12/2021</td>
<td>F</td>
<td>Recorded Lecture</td>
<td>Midterm review</td>
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<tr>
<td>11/15/2021</td>
<td>M</td>
<td>Midterm online Blackboard due 11:59 PM Central Time</td>
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<tr>
<td>11/17/2021</td>
<td>W</td>
<td>Chapter 8 – Sampling Distributions</td>
<td>8.1 Sampling Distribution of Sample Mean, Central Limit Theorem</td>
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<td>11/18/2021</td>
<td>R</td>
<td>Chapter 9 – Confidence Intervals</td>
<td>9.1, 9.2, 9.3 Confidence Interval for a population</td>
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<td>Date</td>
<td>Day</td>
<td>Event</td>
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<td>11/19/21</td>
<td>F</td>
<td>Recorded Lecture</td>
<td>Ch8 HW, Ch9 HW, Ch10 HW</td>
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<tr>
<td>11/22/21</td>
<td>M</td>
<td>Last Day to Drop/Withdraw 5 PM Central Time</td>
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<tr>
<td>11/22/21</td>
<td>M</td>
<td>Chapter 10 – Hypothesis Testing</td>
<td>Testing Steps, Null vs. Alternative, Testing Errors; Z test on population mean, sigma known; t test on population mean, sigma estimated, Variance test</td>
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<td>Chapter 14 – Simple Linear Regression</td>
<td>Scatter plot, Data Analysis Add-In, Model Assumptions, Standard Error; Slope and Intercept, Significance Test; Confidence and Prediction Intervals; Residual Analysis, Adjusted R²</td>
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<td>Chapter 15 – Multiple Regression</td>
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<td>11/29/21</td>
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<td>Ch14 HW, Ch15 HW</td>
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<td>12/8/21</td>
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<td>Recorded Lecture</td>
<td>Final review</td>
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