Dillard College of Business Administration
Syllabus: Advanced Applied Business Statistics
BUAD 5603, Section ~~X20 and~~ X21
Spring 2022

CONTACT INFORMATION:

Instructor:	Dr. John E. Martinez
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Office Hours:	9:30 am to 10:45 am Monday -- Thursday
	or by appointment.

ZOOM Link to Invite Student Attendees:
Join Zoom URL: https://msutexas-edu.zoom.us/j/93979429839
I will be zooming live every Wednesday at 6:00pm and every Sunday at 2:00 pm. First zoom meeting will start on Wed., January 12. All lectures will be recorded.

SYLLABUS CHANGE POLICY:
This syllabus is a guide for the course and is subject to change. All changes will be announced in class and students will be responsible for incorporating the changes into the syllabus. If, at some point, the university switches to an online format, then there will be significant changes in the manner in which exams are administered. Any exam taken online will be monitored through RESPONDUS, which will require students to have access to a webcam video.

COURSE MATERIALS:
Access to SAS OnDEMAND for Academics and to EXCEL
SAS University Edition was a free version of SAS, but you had to download software to create a virtual computer on your real computer, then download the SAS software, and finally, set up a way to read and write files from your "real" computer to the "virtual computer." This caused many people massive headaches (including this author).

The great news about SAS OnDemand for Academics (hence forth called **ODA – OnDemand for Academics**) is that you don't have to download anything! You access SAS on a cloud platform. Also, reading data from your real computer is quite simple.

ODA uses SAS Studio as the interface. SAS Studio provides an environment that includes a point-and-click facility for performing many common tasks, such as producing reports, graphs, data summaries, and statistical tests.

SAS Studio enables you to write and run your own programs.

Registering for ODA
To gain access to ODA, you need to register with SAS Institute. Part of the registration process is to create a SAS profile. If you already have a SAS profile, skip that portion of the instructions.
To start, point your browser to: https://welome.oda.sas.com

Required Text: A Gentle Introduction to Statistics Using SAS® Studio in the Cloud

Copyright © 2021, SAS Institute Inc., Cary, NC, USA
978-1-954844-49-0 (Hardcover)
978-1-954844-45-2 (Paperback)
978-1-954844-46-9 (Web PDF)
978-1-954844-47-6 (EPUB)
978-1-954844-48-3 (Kindle)

RECOMMENDED Text:
Anderson, Sweeney, and Williams: Statistics for Business and Economics, 5e 2009, Thomson South-Western
ISBN 13: 978-0-324-65421-9   ISBN 10: 0-324-65422-7
This text is designed to help students fully understand descriptive and inferential statistical analysis, its components, and its uses. Taking into consideration current statistical technology, its focuses on the use and interpretation of software, while also demonstrating the logic, reasoning, and calculations that lie behind any statistical analysis. Furthermore, the test emphasizes the application of statistical tools to real-life business concerns.

OTHER ANCILLARY MATERIAL:
In addition to the two texts, students need to have access to the following:
- WebCam video
- Thumb drive:

Each student should have a thumb drive (USB) on which to keep various data sets and assignments that will be a part of each class. Projects and assignments may include the requirement that electronic versions of your work be submitted. If students have access to MSU-DCOBA labs, then downloading the SAS software is not necessary. SAS software is installed in most DCOBA labs.

Course Description
Taking into consideration current statistical technology, the course focuses on the use and interpretation of software, while also demonstrating the logic, reasoning, and calculations that lie behind any statistical analysis. Furthermore, the course emphasizes the application of statistical tools to real-life business concerns.

The course is structured around the most commonly used SAS statistical procedures. You will also learn how to test the assumptions for all relevant statistical tests. Major topics featured include descriptive statistics, one-and two-sample tests, ANOVA, correlation, linear and multiple regression, and analysis of categorical data.

Course Pre-requisites
BUAD 3033 or equivalent and consent of Graduate Coordinator.

LEARNING GOALS
A. General Learning Goals (GLC):
- The general objective of this course is to review and solidify the knowledge gained in undergraduate statistics course and enhance the ability to use statistical analysis in decision-making process.
- Problem solving and decision making abilities through critical analysis, evaluation and interpretation of business information. Problem solving skills and interpretation of results will be assessed exams and quizzes.
- Ability to use statistical Software **(with emphasis on SAS).**
- Ability to comprehend statistical discussions and comment on them.

General Learning Goals (GLC) associated with Assessment of Learning (AOL)

GLG3: Students will produce creative responses to business situations.
Objective: Our graduates will demonstrate the capability to critically analyze business situations and develop creative solutions to opportunities and problems.
GLG4: Our students will integrate knowledge across business disciplines.
Objective: Graduates will demonstrate the capability to integrate knowledge across business disciplines.
GLG5: Our students will communicate (in written form) at a professional level.

Objective: Graduates will be able to communicate in a professional business manner.

B. Course Specific Learning Goals:
- Summarize data using descriptive statistics.
- Understand the appropriate methodology for computing all statistical measures covered in this course.
- Apply basic statistical measure to the solution of structured business problems and interpret results.
- Understand the Ordinary Least Squares model and its applications.
- Apply hypothesis testing to business problems and estimates of coefficients.
- The course includes examples using ODS Statistical Graphics procedures such as SGPLOT, SGSCATTER, and SGPANEL that show how **SAS** can produce the required statistics.

COURSE POLICIES:
A. Attendance Policy:
Students are expected to attend all class meetings for this course. Each meeting of the class will run as scheduled. Many important announcements are provided in class. You should always contact your instructor when you are absent.

You are expected to log into D2L a minimum of once weekly to check for updates and announcements via postings and email. See the university catalog for the University Class Attendance Policy.

B. Other Related Policies
Electronic Communication Devices
Use of personal electronic communication devices is discouraged during class sessions and students are encouraged to disable these instruments while attending class. Individuals holding devices that disrupt class may be asked to leave the class for the remainder of the session. Personal electronic communication devices are not permitted during examinations. If you plan to use a calculator during exams, you must have one that is independent of communication devices.

Expectation
Answers you provide in exams and case studies are expected to reflect logical reasoning, to be well articulated, including correct grammar and punctuation and to be clearly legible, in a manner and format that would be acceptable for a business report in a commercial setting. Students will be expected to develop a base knowledge in using SAS. Each student is expected to become sufficiently familiar with the Desire-2-Learn (D2L), as it will be a primary communication instrument for this class.

GRADING and EVALUATIONS:

A student's grade will be based on a weighted average of the following:

MAJOR EXAMS		30%
Exam I	15%	
Exam II	15%	
FINAL EXAM		30%
MANAGERIAL CASES		20%
Case Set I – Written Presentation	10%	
Case Set II – Written Presentation	10%	
SAS PROGRAMS		20%

GRADE EVALUATION:
As a **percent** of total points (1000pts):
A (Above 90%), B (80-89%), C (70-79%), D (60-69%), F (below 60%)
Total Points:
[Exam Avg. X 3.0] + [Final X 3.0] + [Case Avg. X 2.0] + [SAS Progs. X 2.0]

Syllabus Statement – Addendum
In order to help students keep track of their progress toward course objectives, the instructor for this class will provide a Midterm Progress Report through each student's Web World account. Midterm grades will not be reported on the students' transcript; nor will they be calculated in the cumulative GPA. They simply give students an idea of where they stand at the midpoint of the semester. Students earning below a C at the midway point should [schedule a meeting with the professor? Seek out tutoring? Both?]

Major exams:
Two major exams will be given. Each exam will involve calculation and derivation of answers as well as their interpretation and meaning. Questions will come from the text and notes. **A significant portion of each exam involves interpreting output derived from SAS and EXCEL.** Exams will be objective-type exams [TF or MC] monitored through RESPONDUS.

Failure to take an exam on the scheduled date without prior permission from the instructor will result in a zero for that exam. Failure to take any exam without prior approval will result either in an 'F' or 'I' (incomplete) for the course. If, because of a truly unavoidable situation, you are absolutely not able to take an exam at the scheduled time/date, it is your responsibility to contact your instructor well in advance to ask to take the exam early. If a real, legitimate, last minute emergency occurs, it is your responsibility to contact me before the exam begins.

Final exam:
A comprehensive final exam will be given with greater emphasis on later material. This exam will be an objective-type exam [TF or MC] monitored through RESPONDUS.

Managerial Cases – Written Assignments:
Two Managerial Cases are required. The goal of each case is to correctly understand a business situation, solve a real problem, and make a good business decision. Designated cases with specific formatting guidelines are attached at the end of this syllabus. **Statistical output for these cases will be generated using SAS.**

SAS Programs:
Students are required to duplicate SAS output from the following three sets of figures from the text, A Gentle Introduction to Statistics Using SAS. A drop box will be set up in D2L for students of this class to submit their output for this assignment.
The output for each set are due on each scheduled exam date. It is absolutely essential to have the individual assignments complete before each exam is administered. That is because several exam questions will be from the produced output.

Exam I: 6.7, 6.9, 6.14, 6.19, 6.22, 14.10, 14.11, 14.12, 14.16, and 14.17
Exam I: 7.7, 7.8, 7.14, 8.7, 8.10, 8.24, 9.5, 9.6, and 9.9
Exam I: 11.14, 12.2, 12.7, 12.11, 12.12, 12.14, 12.16, 12.17, 12.23, and 12.24

Lower Grades:
The instructor reserves the right to lower any student's final grade by a letter grade (i.e., A to B, D to F) for:
(A) A negative, rude, unreasonably argumentative or inattentive attitude in class, or,
(B) Repeatedly disrupting the class for any reason (tardiness), or,
(D) **NOT** showing respect for fellow classmates' questions, opinions, or class presentations.

Campus Carry:
Senate Bill 11 passed by the 84th Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from concealed carry are appropriately marked, in accordance with state law. For more information regarding campus carry, please refer to the University's webpage at [Campus Carry Polices Link](#).

Academic Integrity:
With regard to academic honesty, students are referred to the "Student Honor Creed" of Midwestern State University Undergraduate Catalog, which may be found using the following MSU link: [Link to Student Honor Creed](#).

Americans with Disabilities Act:
This class follows the guidelines suggested by the Center for Counseling and Disabilities Services for those students who qualify for disability services. See Midwestern State University Undergraduate Catalog which may be found at: [Link to Suggested Guidelines Center for Counseling and Disabilities Services](#).

D2L:
The Midwestern State University D2L program will be incorporated into this class and will provide the primary default means of communication. Each student is expected to master the use of D2L. Assistance to achieve comfort using this program will be available as needed. Grades will be posted using D2L.

OTHER RELEVANT INFORMATION:
Midwestern State University Student Handbook:
See the most recent MSU Student Handbook for a statement of the university's policy on academic dishonesty. Any other questions not specifically addressed by this syllabus are governed by the student handbook.

Medical or Other Serious Problems:
Please take time and make the effort to advise me if you have difficulties that require my attention to properly evaluate your classroom participation and activities.

Tape Recordings and Cell Phones:
Tape recording of lectures is permitted. You may not tape record any information or class discussion when a graded test is being reviewed. Cell phones and pagers are prohibited unless the instructor has granted permission to have them in class.

Return of Exams:
Never download or take a photo of any exam or graded answer sheet. This will result in an automatic zero (0) on the exam.

Plagiarism Statement:
"By enrolling in this course, the student expressly grants MSU a "limited right" in all intellectual property created by the student for the purpose of this course. The "limited right" shall include but shall not be limited to the right to reproduce the student's work product in order to verify originality and authenticity, and educational purposes."

Correspondence
All correspondence regarding grades or class issues must be conducted through email using your **Midwestern State University (MSU) email or through D2L** . I will not return answers to questions to other email accounts and will not discuss grades or class standing over the phone. Since email or D2L messages are the most convenient means of communication, it is recommended that students use and regularly monitor their MSU email and D2L account. You must adhere to the following subject line of any message sent to me via text message or email: **BUAD 5603 First, Last Name.**

Netiquette: Communication Courtesy Code
Students are expected to follow rules of common courtesy in all email messages, class discussions, lecture hall posts, chats, etc. If I consider any of them to be inappropriate or offensive, I will forward the message to the Chair of the department and the online administrators and appropriate action will be taken.

Deadlines
Do not wait for the last minute to do any assignment. Check D2L for all assignments and the deadlines. Reply and check for replies on every email sent and received. The student is responsible for getting the work to me on time.
ASW - Statistics for Business and Economics, 5e, by Anderson, Sweeney, and Williams
Cody - A Gentle Introduction to Statistics Using SAS

Course Schedule – Schedule is subject to change

Class	Date*	Class Coverage
Week01	Jan 12	Class Expectations and Requirements Chap01 Descriptive and Inferential Statistics – Cody Chap02 Study Designs – Cody
Week02	Jan 16	Chap01 Data and Statistics - ASW Chap02 Descriptive Statistics –ASW
Week-2	Jan 19	Chap03 Descriptive Statistics – ASW
Week-3	Jan 23	Chap04 Into to Probability – ASW Chap05 Discrete Probability Distributions - ASW
Week-3	Jan 26	Chap06 Continuous Probability Distributions – ASW
Week-4	Jan 30	Chap03 – What is SAS OnDemand – Cody Chap04 – SAS Studio Tasks – Cody Chap05 – Importing Data into SAS - Cody
Week-4	Feb 02	Chap06 – Descriptive Statistics – Cody Chap14 – Analyzing categorical data - Cody
Week-5	Feb 06	Review for MGR Cases for Exam I
Week-5	Feb 09	Review for MGR Cases for Exam I
Week-6	Feb 13	**Exam I [8:00-10:00 pm]**
Week-6	Feb 16	Chap07 Sampling and Sampling Distributions - ASW Chap08 Interval Estimation - ASW Chap09 Hypothesis Tests - ASW
Week-7	Feb 20	Chap07 One-Sample Tests – Cody Chap08 Two-Sample Tests - Cody
Week-7	Feb 23	Chap09 Comparing More than Two Means – Cody Chap10 Analysis of Variance - ASW
Week-8	Feb27	Chap11 Tests of Independence - ASW
Week-8	Mar 02	Review for MGR Cases for Exam II
Week-9	Mar06	Review for MGR cases for Exam II
Week-9	Mar09	Review for MGR cases for Exam II
Week10	Mar13-19	SPRING BREAK
Week11	Mar 20	**Exam II [8:00-10:00 pm]**
Week11	Mar 23	Chap11 Correlation - Cody
Week12	Mar27	Chap12 Simple Regression - ASW
Week12	Mar30	Chap12 Simple Regression - ASW
Week13	Apr03	Chap13 Multiple Regression - ASW
Week13	Apr06	Chap13 Multiple Regression - ASW
Week14	Apr10	Chap12 Simple and Multiple Regression - Cody
Week14	Apr13	Review for MGR Cases for Exam III
Week15	Apr17	Review for MGR cases for Exam III
Week15	Apr20	Review for MGR Cases for Exam III
Week16	Apr24	Review for MGR cases for Exam III
Week16	Apr27	Review for Exam III
	May01	**Cases due**
	May04	**Final Exam [8:00-10:00 pm]**

*All Dates are Tentative

Format for Managerial Case Writing Assignments
- Each student is responsible for completing two designated Managerial Case Reports (see list below).
- Each case should include the following components:
    1. Statement of the problem
    2. Statistical Results
    3. Policy conclusions

    Append the following to each case:
    1. **SAS Program**
    2. **SAS Output**

- Use Microsoft's WORD processor, **with SAS inserts**, to complete this assignment.
- At the end of each case is an <u>Assignment</u> that students are to complete.
- Students are required to identify relevant variables, choose the appropriate analysis plan, produce correct results, interpret their findings and make recommendations regarding the managerial issues presented.
- Data sets for the various cases will be provided in the Contents section of D2L. Each case assignment should be based on the information provided in the case itself.
- Consult the two following articles for clarification about writing proper statistics reports:
    Teaching Students to Write About Statistics by Mike Forster
    An Approach to Report Writing in Statistics Courses by Glenda Francis
- Use one-inch margins throughout and either 10 or 12 character font.
- In addition to the three General Learning Goals (GLC) stated above, this assignment is graded on the basis of accuracy, relevancy, neatness, style, thoroughness, and punctuality, as well as on the professionalism of your WORD and SAS output.
- Significant penalties are assessed for late work.
- A drop box folder will be set up in D2L for you to submit your work.
- Missing even one case will entail severe penalties.
- Provide the following information at the beginning of each case:
    First, Last Name
    Case title (i.e., Glenco, etc,)
    Semester, Year
- The following cases, which can be found in your text (Business Cases in Statistical Decision Making), are required:

    Managerial Case Set I
    Select 1 of the following cases: Glenco, Circuit, and ServePro
    Managerial Case Set II
    Select 1 of the following cases: Easton, Pronto, and Ryder
    Cases are due by _____ pm on ____, _____.

Final Exam schedule can be found in the **Spring Schedule of Classes**. Please check the following link: https://msutexas.edu/registrar/_assets/files/pdfs/spring22finals.pdf

Academic Calendar: https://msutexas.edu/registrar/_assets/files/pdfs/acadcal2022.pdf

Spring Semester 2022*

Priority Application Date for Admission	November 1, 2021
Application Deadline for Admission	December 1, 2021
Student Registration.	January 3-5
Student Orientation and Registration	January 6
Student Registration	January 7-9
Classes begin	January 10
Change of Schedule and Late Registration	January 10-13
Martin Luther King's Birthday observed - No classes	January 17
Final Deadline for May graduates to file for graduation	February 14
Summer and Fall 2022 Schedules of Classes online	mid-March
Spring Break begins 5:00 p.m. (March 14-19)	March 12
Classes resume	March 21
Last Day for "W", 4:00 p.m.	
Drops after this date will receive grades of "F."	March 21
Holiday Break begins 10:00 p.m	April 13
Classes resume	April 18
Last day of classes	April 29
Final examinations begin	April 30
Commencement	