



Dillard College of Business Administration

Syllabus: Advanced Applied Business Statistics

BUAD 5603, Section X20

Spring 2021

CONTACT INFORMATION:

Instructor: Dr. John E. Martinez
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Office Hours: 3:30 am to 4:30 pm Tuesday and Thursday
2:00 pm to 3:30 pm Monday and Wednesday via D2L,
or by appointment.

ZOOM Link to Invite Student Attendees:

[Join Zoom URL: https://msutexas-edu.zoom.us/j/93979429839](https://msutexas-edu.zoom.us/j/93979429839)

Every Wednesday at 6:00pm starting January 13.

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:

REQUIRED:

SAS® Statistics by Example by Ron Cody. Copyright © 2011, SAS Institute Inc., Cary, North Carolina, USA
ISBN 978-1-60764-800-0
ISBN 978-1-61290-012-4 Electronic Book

Business Cases in Statistical Decision Making, 1994, Prentice-Hall by Lawrence H. Peters and J. Brian Gray, ISBN 0-13-285834-7

RECOMMENDED:

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.

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.
- [SAS® University Download & Installation Guide:
https://www.sas.com/en_us/software/university-edition/download-software.html](https://www.sas.com/en_us/software/university-edition/download-software.html)

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		40%
Managerial Cases		30%
Case Set I – Written Presentation	15%	
Case Set II – Written Presentation	15%	

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 4.0] + [Case Avg. X 3.0]

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:

Three 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.** 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 a multiple-choice exam monitored through RESPONDUS.

Managerial Cases – Written Assignments:

Two sets of 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.**

Class Participation:

Students are expected to participate in all class discussions. Participation includes more than attendance. It also requires punctuality and attentiveness, as well as asking and answering questions.

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,
- (C) Three or more absences, 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. The subject line of any message sent to me in relation to this class **MUST** be the following: **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.

Course Schedule – Schedule is subject to change

Class	Date*	Class Coverage
1	Jan 13	Class Expectations and Requirements Chap01 Data and Statistics - ASW Chap01 An Introduction to SAS – Cody
2	Jan 20	Chap01 and Introduction to SAS
3	Jan 27	Chap02 Descriptive Statistics – Tabular and Graphical Presentations-ASW Chap03 Descriptive Statistics – Numerical Measures-ASW Chap02 Descriptive Statistics – Continuous Variables – Cody Chap03 Descriptive Statistics – Categorical Variables - Cody
4	Feb 03	Chap04 Into to Probability – ASW Chap05 Discrete Probability Distributions - ASW
5	Feb 10	Chap06 Continuous Probability Distributions – ASW
6	Feb 17	Exam I
7	Feb 24	Chap07 Sampling and Sampling Distributions - ASW
8	Mar 03	Chap08 Interval Estimation - ASW
8	Mar 03	Chap09 Hypothesis Tests - ASW Chap05 Inferential Statistics – One-Sample Tests – Cody Chap06 Inferential Statistics – Two-Sample Tests - Cody
9	Mar 10	Chap11 Comparisons Involving Proportions and Tests of Independence - ASW Chap10 Categorical Data – Cody
		Spring Break Cancelled
10	Mar 17	Exam II and Case Set I due
11	Mar 24	Chap10 Analysis of Variance - ASW Chap07 Inferential Statistics – Comparing More than Two Means - Cody
12	Mar 31	Chap12 Simple Regression - ASW Chap04 Descriptive Statistics – Bivariate Associations – Cody Chap08 Correlation and Regression - Cody
13	Apr 07	Chap13 Multiple Regression - ASW Chap09 Multiple Regression - Cody
14	Apr 14	Exam III and Review Cases
15	Apr 21	Case Set II due
16	Apr 28	Final Exam

*All Dates are Tentative

- ASW - Essential statistics by Anderson, Sweeney, and Williams
- Cody - SAS by Example

See MSU Spring 2021 Calendar:

https://msutexas.edu/registrar/_assets/files/pdfs/acadcal2021.pdf

Format for Managerial Case Writing Assignments

- Each student is responsible for completing two sets of 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 Assignment 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 and Last Name
Case title (i.e., Glenco, etc.) - Set I (or II)
Semester, Year
- The following cases, which can be found in your text (Business Cases in Statistical Decision Making), are required:

Managerial Case Set I

Required cases: Glenco, Circuit, and ServePro

The first case set is due by _____ pm on _____, _____.

Managerial Case Set II

Required cases: Easton, Pronto, and Ryder

The second case set is due by _____ pm on _____, _____..