



Dillard College of Business Administration
Syllabus: Advanced Applied Business Statistics
BUAD 5603, 180
Dillard Building Room 324
In-person Instructional Method
Fall 2025

CONTACT INFORMATION:

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Office Hours: Mon.-Thurs. 10:00am – 11:15am or by appointment.

***Contact instructor at this email address, not through d2L.**

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**.

BUAD 5603, Section 180, Advanced Applied Business Statistics,
Course Number 10194 uses supplemental Desire2Learn.
Attributes: Course Exempt from 3-peat rule, Course Fee –
Business Administration, COBA, Instructional Enhance Fee
Main Campus Lecture Schedule Type
In-person Instructional Method 3.000 Credit Hours
No Scheduled Meeting Times.

COURSE MATERIALS:

Access to SAS OnDEMAND for Academics (SODA) and to EXCEL

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.

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://welcome.oda.sas.com>

Required Text:

Connect 3P Inclusive Access Online Access for Essentials of Business Statistics / Jaggia, Kelly / 3rd edition / **9781265192228** / 180-days / <https://connect.mheducation.com/class/j-martinez-inperson-180>

Optional Text:

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

Copyright © 2021, SAS Institute Inc., Cary, NC, USA

978-1-954844-45-2 (Paperback)

978-1-954844-47-6 (EPUB)

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 and EXCEL)**.
- 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 (OLS) model and its applications.
- Apply hypothesis testing to business problems and estimates of coefficients.
- To present statistical results in a meaningful and understanding manner

COURSE POLICIES:

A. Attendance Policy:

Being an online course, physical classroom attendance is not required. However, students are expected to access all videos and taped lectures for this course. Many important announcements are provided for this course. You are expected to log into D2L a minimum of once daily to check for updates and announcements via postings and email. See the MSU university catalog for the University Class Attendance Policy.

B. Other Related Policies

Electronic Communication Devices

Use of personal electronic communication devices, other than through D2L, is discouraged during exams and students are required to disable any other electronic

instruments during exams. Individuals holding devices that disrupt class may be asked to leave the class for the remainder of the session.

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	30.0%
Exam I	10.0%
Exam II	10.0%
Exam III	10.0%
QUIZZES	10.0%
BUSINESS CASES	20.0%
MANAGERIAL CASES PRESENTATIONS	10.0%
TEXTBOOK CASE PRESENTATIONS	10.0%
FINAL EXAM	40.0%

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:

Option I

$[Ex\ Avg. \times 3.0] + [Quiz\text{-}avg \times 1.0] + [Case\ Avg. \times 2.0] + [Final \times 4.0] + Bon\ Pts.$

Major exams (30%):

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. Exams will consist of objective-type questions [TF or MC] from CONNECT. The text and hand-held calculator are permissible for exams. Utilization of any other material, electronic or otherwise, will result in a zero for that exam. A student's lowest exam score can be replaced with their final exam grade.

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.

Quizzes (10%):

A ten-question quiz will be given over all chapters of the text. The quizzes are taken through CONNECT. The textbook can be used for each quiz. Only the 10 highest quiz scores are used in computing your quiz average.

Final exam (40%):

A comprehensive final exam will be given. This exam will be an objective-type exam [TF or MC]. The final must be taken in-person at the scheduled date based on the final exam schedule or through an approved testing center [see the attachment below]. A student's final exam score can be used to replace their lowest exam score.

For students approved as Distance Learners, the exam instructions will be sent to testing centers via email, or uploaded to the proctor service. Only certified testing centers are permitted to administer exams. Students are responsible for arranging a testing center to oversee the exam process. Students enrolled in a course(s) requiring proctored exams, must have a proctor on file. Proctors must be able to monitor the student throughout the entire exam. The proctor information must be submitted within one week from the start of the course and approved by instructor. Libraries are prohibited from proctoring exams. Students are not allowed to handle the exam after completion under any circumstances. Proctored exams are not to be removed from the testing center at any time. No late exams will be accepted. [See attachment below - Testing Centers for Final Exam for Online Exams - for further information about approved testing sites.]

Business Stat Cases (20%)

A. Managerial Cases – Written Assignments (10%):

Three 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. More detailed information about this requirement can be found in the attachment below [see **Format for Managerial Case Writing Assignments**].

B. Textbook cases – Written Assignments (10%)

Four cases from the text are required. These written cases should be formatted in accordance with the end-of-chapter case studies – Writing with Data.

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 attitude in class, whether in-person or online, or
- (B) Repeatedly disrupting the class for any reason (tardiness), or
- (D) **NOT** showing respect for fellow classmates' questions or opinions, or
- (E) **NOT** following exam instructions.

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 Policies 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.

Fall Session 2025 Schedule

<https://msutexas.edu/registrar/assets/files/pdfs/232425webcalendar.pdf>

Classes begin..... June 2
 Juneteenth Holiday – No Classes June 19
 Last Day for “W”, 4:00 p.m..... June 18
 Independence Day Holiday – No Classes.....July 4
 Final examinationsJuly 3

Course Schedule – Schedule is subject to change

Week 1-Aug26	Chapter 1: Data and Data Preparation
Week 1-Aug26	Chapter 2: Data Visualization
Week 2-Sep02	Chapter 3: Summary Measures
Week 3-Sep09	Intro to SAS
Week 4-Sep16	Chapter 4: Introduction to Probability
Week 4-Sep16	Chapter 5: Discrete Probability Distributions
Week 5-Sep23	Chapter 6: Continuous Probability Distributions
Week 6-Sep30	Review Managerial cases
Week 7-Oct02	Exam I Review
	Exam I Sat. Oct. 04-Oct.05
Week 8-Oct 07	Chapter 7: Sampling and Sampling Distributions
Week 8-Oct 07	Chapter 8: Interval Estimation
Week 9-Oct 14	Chapter 9: Hypothesis Testing
Week 10-Oct21	Chapter 10: Comparisons Involving Means
Week 11-Oct28	Chapter 11: Comparisons Involving Proportions
Week12-Nov04	Review Managerial cases
	Exam II Sat. Nov. 08-Nov.09

Week13-Nov11	Chapter 12: Regression Analysis
Week14-Nov18	Chapter 13: More Topics in Regression Analysis
Week15-Nov25	Chapter 14: Forecasting with Time Series Data
Week16-Dec02	Review Managerial Cases
	Exam III Thurs. Dec. 04-Dec. 05
Finals week	Thursday, December 11 5:45 p.m. - 7:45 p.m.

*All Dates are Tentative

Format for Textbook Cases - Writing with Data

The following Textbook Cases are required. All four of the textbook cases below are required. These written cases should be formatted in accordance with the end-of-chapter case studies – Writing with Data. The data for these cases is found in Appendices of the text, Appendix A - Big Data Sets: Variable Description and Data Dictionary. All cases are due by midnight on Friday Dec. 5.

A drop box folder will be set up in D2L for you to submit all five cases. Submit the five individual files in WORD format. Provide the following information at the beginning of each case:

First, Last Name

Case number and title (i.e., Report 12.1 House_Price)

Report 2.1 College_Admissions

Report 3.1 House Price

Report 12.1 House_Price

Report 13.3 TechSales_Reps

The following rubric will be used to evaluate this assignment:

	Insufficient	Fair	Good	Very Good	Excellent
Use of Evidence to Support Argument	No evidence is used to support an argument.	One piece of evidence is used to support an argument	Two pieces of evidence are used to support an argument.	Three pieces of evidence are used to support an argument.	Four or more pieces of evidence are used to support an argument.
Organization	Organization is not logical or discernable.	Structure is not well-organized or readable. Sequence of ideas is random or confusing. Concepts are disjointed and writing is unclear.	Structure is disorganized but readable. Ideas do not always flow in logical sequence. Concepts are not always cohesive, and writing is confusing.	Structure of the response is organized and readable. Ideas flow in a logical sequence, for the most part. Concepts are generally cohesive.	Structure of the response is well-organized and readable. Ideas flow in a logical sequence. Concepts are cohesive and writing stands together.
Language, mechanics,	Response is not written in	Sentences are not well-built. Overall,	Sentences are confusing occasionally. Often,	Sentences are clear with minimal	Sentences are fluent and well-

voice, and style	complete sentences.	word choice does not reflect content. Many errors in grammar, punctuation, spelling, syntax or semantics are present.	word choice does not reflect content. Some errors in grammar, punctuation, spelling, syntax or semantics are present.	confusion. Word choice reflects content adequately. Few errors in grammar, punctuation, spelling, syntax or semantics are present.	built. Word choice reflects the content effectively. Minimal, if any, errors in grammar, punctuation, spelling, syntax or semantics are present.
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Grading scale:

Excellent- 90+; Very Good-80+; Good-70+; Fair-70+; Insufficient below 60.

All Cases are due by midnight on Dec. 05, 2025

Format for Managerial Case Writing Assignments

- Each student is responsible for completing **three** designated Managerial Case Reports (see list below). However, only one case per section (or exam) is required.
- 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 code used**
2. **SAS Output with tables referenced**

- Use Microsoft's **WORD** processor 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 following case study for clarification about writing proper statistics reports: ***Kilgore Mfg. - Managerial Case Analysis*** by Instructor for this course.
- 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 all three cases.
- 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., Circuit, etc.)
Semester, Year
Screenshop of your SAS OnDemand Registration Profile

- The following cases can be found in the CONTENT section of D2L. Only one case presentation per set is required:

Managerial Case Set I

Select 1 of the following cases: Glenco

Managerial Case Set II

Select 2 of the following cases: Circuit.

Managerial Case Set III

Select 3 of the following cases: Easton.

All three Cases are due by midnight on Dec. 05, 2025.

Specific Guidelines for Written Case Presentations

- First and foremost - remember that this is a managerial case presentation. Therefore, do not write it in an academic format, but rather in an easily readable and understandable format for a manager.
- Be sure to include **your name, case title, semester-year, and registration profile** at the top of the first page of your report. No cover sheet is required.
- Be sure to include an **introductory paragraph** as to what the case all about, or what problems need to be addressed.
- A second section presenting your **key statistical results** should follow your introductory paragraph. Tables should be clearly numbered and titled. All tables should be referenced by their table number. This section should include all important statistical results on which your policy recommendations are based.
- **Following the statistical results section**, a well-defined **summary and conclusions**, should be included along with clearly stated policy recommendations.
- If you happen to use descriptive statistics with EXCEL or SAS, you should exclude information that is not relevant for the case. For example: Would a manager actually care about kurtosis, or whether certain measures are carried to the fourth decimal place?
- Be **sure** to provide an appropriate title and number for each chart, graph, or table you use. Also, make sure that each chart, graph, or table is referenced in the body of the text. Chart, graphs, or tables should be in sequential order.
- Write in paragraph form with complete sentences and correct grammar.
- For most histograms, use class intervals that are easy to read, such as in intervals of 10, 100, or 1000.
- Except where fractional values are relevant, use whole numbers. For instance, is it necessary to know that the average age is 28.4621, or is 28 years sufficient?
- Do **not** include output from **Proc Contents** or **Proc Print** or **Data input statements**.
- APPENDIX I – Include **only** SAS code **used**.
- APPENDIX II – Include **only** SAS statistical results **used**. At the very top of the first page of this appendix, be sure to **screenshot** your ODA SAS registration profile. Do not type the registration name or number.

- Submit your cases in D2L under ASSESSMENTS-ASSIGNMENTS in appropriate submission folder for MGR cases. All submissions should be in **WORD** format.
- Late work will be penalized.

RESPONDUS MONITOR REQUIREMENTS FOR ONLINE EXAMS

For any online exam, failure to adhere to anyone of the following requirements will result in a grade of 0 for that exam.

Startup Sequence

The startup sequence is the set of required events that occur before your Monitor webcam session can begin.

Webcam Check

Do you see your image in the window?

Yes No

Additional Instructions

During this exam, you shouldn't access other resources (a calculator, phone, tablet, notes, books, etc.) or communicate with other people. For the final exam, SAS output from D2L can be utilized. Please stay in your seat and focus on the computer screen until the exam is complete. If an interruption occurs, briefly explain what happened by speaking directly to your webcam. And, finally, remember that you cannot exit the exam until all questions are completed and submitted it for grading.

Guidelines

Select a quiet location where you won't be interrupted or distracted.

Avoid rooms where children or other people are present.

Turn off televisions, radio, music, etc.

Student Photo

Position your face so it fills most of the picture window below.

Look into the camera and click "Take Picture."

Show Identification

Hold your identification to the camera and select "Take Picture."

(Only use the type of identification indicated by your instructor).

Environment Check

Make sure the area around your computer is clear of calculators, papers, books, phones, etc.

Click "Start Recording" and slowly tilt/pan your webcam so a brief video can be made of the area around your computer. (If the webcam is built into the monitor, just do your best to show the surrounding area.)

Click "Stop Recording" when finished.

Face Detection

Your face needs to be well positioned in the video window and clearly visible during the exam.

Testing Centers for Final Exam for Online Exams

For locating a testing center, you can find some approved public testing centers near you at <https://clep.collegeboard.org/clep-test-center-search>. You'll be responsible for

making the arrangement with an approved testing center of your choice, and scheduling to take the exam on or before the final exam expiration date, as stated in the syllabus. The password-protected exam shall be administered online through D2L using a computer provided by the testing center. The computer needs to support the Respondus Lockdown Browser.

After you make the testing arrangement with an approved testing center, please have the contact person from the testing center email instructor, or provide instructor with the email address of the contact person. I'll then share the password of the exam with that person, such that at your scheduled exam time, the testing center will provide you with the password to enter the exam. You'll access the exam through our D2L course page as before.

There are no allowed resources for the exam except for a dedicated calculator. Draft papers and stationery such as pen and pencil are also not allowed. No electronic device other than the dedicated calculator is allowed for the exam (e.g., no cell phone). The exam has 67 objective type questions with a two-hour time limit. The rest of the exam specification also remains the same.

If you are an online student, you may take the exam at the same time and same classroom as the in-person class. If you choose to take the proctored exam in the College at a different date than the in-person class, please make the arrangement at least a week before the scheduled exam date with our department secretary, Ms. Anne Dugan (anne.dugan@msutexas.edu). You'll then take the proctored exam in a computer lab in the College.