



BUAD 310g – Applied Business Statistics

Syllabus – Fall 2021

<u>Professor:</u>	Matteo Sesia, Ph.D.	<u>Class:</u>	HOH EDI (Mon and Wed 2-3:10 PM)
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Course Description

In this course, you will learn various statistical techniques and their applications to making business decisions. The primary objective is to enable students to perform and understand statistical analysis of data, and to critically evaluate statistical reports or findings. You will learn to think critically about how statistics is used by others and how it impacts your day-to-day life and career. No mathematical background beyond high school algebra is required.

Course Learning Objectives

You will explore and describe data, examine sampling distributions, make estimations, test hypotheses, perform simple and multiple regression analysis, and build models using relevant software both independently and collaboratively.

These applications will guide you to:

1. Explain the concepts of descriptive statistics and use sample statistics to make inferences about population characteristics
2. Recognize different models of statistical processes such as hypothesis testing and linear and multiple regression
3. Explain statistical processes and choose which process to use for particular data analysis applications
4. Interpret statistical results as a basis for decision making
5. Use applicable statistics software
6. Collaborate effectively to use statistical analysis to address business challenges
7. Communicate your interpretation of the results of statistical analysis logically and persuasively
8. Understand the ethical guidelines for statistical practice
9. Use Excel functions and features to competently analyze data

These course level objectives support the six Marshall Program Learning Goals to varying degrees. Details may be found in the Appendix of this syllabus.

Required Materials

1. The course textbook *Applied Statistics in Business and Economics* (7th Edition) by David Doane and Lori Seward, is available at the bookstore. You can purchase a hard copy at the bookstore or an electronic version of the textbook. After you have purchased a book, you must register with McGraw-Hill Connect, which is a website provided by the publisher.
2. **Each student must register with McGraw-Hill's Connect** in order to have access to the homework, which will be administered online. Registration with Connect requires an access code, which you can either purchase online, or get automatically when you buy a new textbook at the USC bookstore. More details are provided on page 9 below.

Prerequisites and/or Recommended Preparation:

No mathematical background beyond high school algebra is required.

Course Notes:

The slides for the course and other handouts will be posted on your BUAD 310 Blackboard. If you would like hard copies of the slides, it will be your responsibility to print them out. Please check the Blackboard site and your email daily for class preparation materials or instructions.

Software:

For the discussions/application sessions, students are required to bring a laptop with Microsoft Excel software. Mac users need to have either the Mac version of Excel 2016 or they can use the PC version by installing Boot Camp (free from Apple) - or other Windows emulation software for Mac - and Windows, or by using the Marshall Virtual Lab. Students can take advantage of the free version of Office 365 that USC provides to students, which includes MS Excel 2016. The free Microsoft USC Office Suite can be downloaded from <http://itservices.usc.edu/officestudents/>. In addition, the Analysis ToolPak add-in is also required, which can be accessed in the PC environment by clicking on File/Options/Add-ins/Go, checking Analysis ToolPak and clicking OK. The procedure is similar for Macs. In addition to the above, all students have access to ExcelNow!, an Excel tutorial that is an add-in that will plug into your version of Excel.

ASSIGNMENTS AND GRADING DETAIL

Your final grade will be determined as follows:

Component of Grade	% of Grade
Homework *	10.0%
Application Exercises **	10.0%
Application Exam	20.0%
Midterm Exam	20.0%
Final Exam	30.0%
Participation	5.0%
Excel Proficiency***	5.0%

* There are 10 homework assignments, each based on a maximum score of 100% if the assignment is submitted before the due date and time. Late submissions will be accepted, but there will be a late penalty of 10%. The two lowest scores will be dropped when calculating the average for this component of the grade.

** There are 9 application exercises. Late submissions will be accepted, but there will be a late penalty of 10%. The two lowest scores will be dropped when calculating the average for this component of the grade.

*** Students will be given access to the ExcelNow! tutorial which covers over 160 features and functions of Excel. Each topic has a Read and Practice sheet, a short video and a self-grading quiz. Students are asked to take the quiz for 30 of the topics in ExcelNow! Unlimited tries are allowed. The composite score for all quizzes will be used for this component of the grade. The due date for uploading the quizzes gradebook is end-of-day, October 31st. Late submissions will be accepted, but there will be a late penalty of 10%.

Final grades represent how you perform in the class relative to other students. Two items are considered when assigning final grades:

1. Your total weighted score as out of all the available points for all assignments and exams.
2. Your ranking among all students in the class.

Class Attendance & Participation:

You are expected to attend all classes. In addition to providing expanded explanations and examples of important statistical analysis concepts, the application sections also present you with the opportunity to pose questions.

The applications section of the class makes up 30% of the course grade. The 30% is composed of two parts: (1) There will be 10 application exercises. The lowest 2 grades will be dropped and the average of the remaining 8 scores will count for 10% of the course grade. (2) There will be one exam, done individually, accounting for 20% of the course grade.

I am happy to go over a concept multiple times. If you feel uneasy bringing up your questions in class, take advantage of other opportunities to get help. I am accessible during office hours and I answer questions on Piazza (available through Blackboard). Please do not ask me questions about the class content or logistics via email. Instead, you are encouraged to ask your questions in class, during office hours, or on Piazza.

Homework:

You will access your assignments and submit the answers online, using McGraw-Hill's Connect. There will be 10 homework assignments. Due dates for each homework assignment are in the tentative course schedule on page 11. An assignment that is submitted after the due date will have a reduced maximum score as indicated in the footnote on the previous page.

Application Exercises:

You will work collaboratively using Excel for data-analysis and problem solving in the application section of this course. The exercises are constructed to lead you through key topics introduced in lectures and reading. Your conclusions must explain the quantitative findings through a real-world business perspective. There are no make-up sessions for any missed applied session. You must attend only your designated session. You must attend at least 8 of the 10 sessions when an application exercise is due. There is no need for a calculator in the application sessions since you will be able to use Excel, which is much more powerful and efficient than a calculator and less prone to errors.

Midterm Exam, Applications Exam and Final Exam:

The midterm exam will be given in the lecture section of the course on the date announced in the course schedule (page 11). There will also be an exam covering the work done in your application sessions. The Application Exam will be in a similar format to the weekly problem solving applications. No make-ups of tests will be given. **You will receive a grade of zero for each missed test** unless you have a written excuse from your doctor or the University.

The final examination will take place on **Saturday, December 11, 2021, 2:00-4:00 pm for all BUAD 310 sessions**. Note that it is an **exception final**, as it does **not** take place at the regularly listed time. The final exam is comprehensive (this is inevitable in a Statistics course) but greater emphasis will be given to the material taught later in the semester. You **cannot** be exempted from this final under any circumstances. **The final exam will NOT be given at any other time.**

Note that according to the USC Office of Academic Records and Registrar, *"No student in a course with a final examination is permitted to omit the final examination or take the final examination prior to its scheduled date, and no instructor is authorized to permit a student to do so. No student is allowed to re-take a final examination or do extra work in a course after the semester has ended for purposes of improving his or her grade."*

Collaboration Policy:

Discussion of homework problems is permitted and encouraged; however, each student is required to prepare and submit his or her solutions, including computer work, independently.

Collaboration of any sort on tests and exams is prohibited and will result in a 0 on that exam. Any potential cheating issues will be reported to the administration for further penalties.

Add/Drop Process:

Please note that the last day to register and add classes is Friday, September 10. The last day to drop a class without a mark of "W" is also September 10 and receive a tuition refund. The last day to drop a class without a mark of "W" is October 8. The last day to drop with a mark of W is November 12. For more information, visit <https://classes.usc.edu/term-20213/calendar/>

Academic Conduct

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Section 11, Behavior Violating University Standards <https://policy.usc.edu/scampus/>. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, <https://policy.usc.edu/usc-policies/>.

Honor Code. Students are responsible for obtaining, reading, and understanding the Honor Code System handbook. Students who are found to have violated the Code will be subject to disciplinary action as described in the handbook. For more specific information, please refer to the Student Honor Code System handbook, available in class or from the receptionist in ACC 101.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the Office of Equity and Diversity <https://eotix.usc.edu/> or to the Department of Public Safety <https://dps.usc.edu/>. This is important for the safety of the whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. See <https://studenthealth.usc.edu/> for information on 24/7 confidential support, and the sexual assault resource center webpage <https://eotix.usc.edu/> describes reporting options and other resources.

Support Systems:

Students whose primary language is not English should check with the American Language Institute <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students.

The Office of Student Accessibility Services (OSAS) - (213) 740-3959

<https://osas.usc.edu/>

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

USC is committed to making reasonable accommodations to assist individuals with disabilities in reaching their academic potential. If you have a disability which may impact your performance, attendance, or grades in this course and require accommodations, you must first register with the Office of *Student Accessibility Services* (<https://osas.usc.edu/>). OSAS provides certification for students with disabilities and helps arrange the relevant accommodations. Any student requesting

academic accommodations based on a disability is required to register with OSAS each semester. A letter of verification for approved accommodations can be obtained from OSAS. Please be sure the letter is delivered to me as early in the semester as possible. OSAS is located in GFS (Grace Ford Salvatori Hall) 120 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-3959. Email: sasfrntd@usc.edu

Marshall Academic Resources:

The Marshall Office of Undergraduate Advising & Student Affairs offers free weekly Core Review Sessions, along with additional “Cracking the Core” workshops, as a supplement to classroom instruction. Marshall Peer Academic Leaders (PALs) assist students in understanding and clarifying difficult concepts covered in class that week, but core review sessions are effective only if students regularly attend class and actively engage in the process of thinking critically about the course content. Marshall Academic Resources are available for core courses that are traditionally challenging in the business major curriculum. For more information, please visit the Marshall Undergrad Advising and Student Affairs website.

Counseling and Mental Health - (213) 740-9355– 24/7 on call

<https://studenthealth.usc.edu/counseling/>

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1-800-273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. <http://www.suicidepreventionlifeline.org>

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL), press “0” after hours – 24/7 on call

<https://studenthealth.usc.edu/sexual-assault/>

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Sexual Assault Resource Center

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: <http://sarc.usc.edu/>

Office of Equity and Diversity (OED)- (213) 740-5086 | Title IX – (213) 821-8298

equity.usc.edu, titleix.usc.edu

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298

https://usc-advocate.symplicity.com/care_report/

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity |Title IX for appropriate investigation, supportive measures, and response.

USC Campus Support and Intervention - (213) 821-4710

<https://uscsa.usc.edu/>

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity at USC - (213) 740-2101

diversity.usc.edu

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call
dps.usc.edu, emergency.usc.edu

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call
dps.usc.edu

Non-emergency assistance or information.

Class Notes Policy

Notes or recordings made by students based on a university class or lecture may only be made for purposes of individual or group study, or for other non-commercial purposes that reasonably arise from the student's membership in the class or attendance at the university. This restriction also applies to any information distributed, disseminated or in any way displayed for use in relationship to the class, whether obtained in class, via email or otherwise on the Internet, or via any other medium. Actions in violation of this policy constitute a violation of the Student Conduct Code, and may subject an individual or entity to university discipline and/or legal proceedings.

Classroom Zoom Policy (when applicable)

Zoom is the platform used for all online sessions and online office hours. A link and instructions to join the Zoom sessions will be posted in the Blackboard Course Pages. For more information about Zoom, go to: [Zoom Support Tutorials](#)

1. Class attendance and participation is important in developing a coherent view of the materials covered in the course. Unless accommodated as described in (b) below, attendance and active participation is expected at the synchronous Zoom class sessions.
 - a. Students are expected to have cameras on during the synchronous Zoom sessions, and preferably use headsets or earphones to ensure the best audio quality. *Please advise me if you have circumstances under which you will not be able to meet these expectations.*
 - b. For students who are located in a time zone where the synchronous class sessions or exams fall outside the window of 8 a.m. to 10 p.m. in your local time zone, please contact me. You will not be penalized for not attending the live Zoom class sessions. The Zoom sessions will be recorded and posted on Blackboard, and you will be responsible for watching the recorded sessions. Exams and other synchronous assessments will be scheduled for students to be able to complete the assessment between 8 a.m. and 10 p.m. in your local time zone.
 - c. *[If applicable]* In addition, for any student who does not attend the Zoom session live, you will be required to complete the following assignment as an alternate method of contribution to the class: *[insert; or see one sample below]*

2. During synchronous Zoom sessions, the following netiquette is expected, as if you were in a physical classroom.
 - a. Please do:
 - i. Log into class early or promptly
 - ii. Arrange to attend class where there is a reliable internet connection and without distractions
 - iii. Dress respectfully. Video conference business meetings are and will be the norm, so practice your professional telepresence.
 - iv. If you use a virtual background, please keep it respectfully professional.
 - v. Display both your first and last name during video conferencing and synchronous class meetings.
 - vi. Respectfully minimize distractions by muting and or turning off video if necessary and when appropriate.
 - vii. Engage in appropriate tone and language with instructors and classmates.
 - b. Please try not to:
 - i. Engage in a simultaneous activity not related to the class.
 - ii. Interact with persons who are not part of the class during the class session.
 - iii. Leave frequently or not be on camera for extended periods of time.
 - iv. Have other persons or pets in view of the camera.
 - v. Use all CAPITAL LETTERS in emails or discussion board postings. This is considered "shouting" and is seen as impolite or aggressive.
 - vi. Use more than one punctuation mark, this is also considered aggressive!!!!
3. All Zoom sessions will be recorded and posted in the Blackboard Course pages.

Class Technology Requirements (when applicable)

The following equipment and system requirements are recommended to successfully participate in this online course:

- Computer with webcam
- Earphones or headset
- Reliable (preferably high speed) Internet connection
- Current operating system for Windows or Mac
- Current browser
 - Google Chrome
 - Firefox
 - Internet Explorer (not recommended)
 - Safari (Mac)

For technical support please see:

- **USC Systems** (Blackboard, USC Login, MyUSC, USC Gmail, GoogleApps)
For assistance with your USC login or other USC systems, please call +1 (213) 740-5555 or email Consult@usc.edu. They are open Mon – Fri 9:30am – 5pm and weekends from 8am - 5pm (all Pacific time).
- **Zoom Video Web Conferencing System** (MarshallTALK)
For assistance using Zoom, go to [Zoom Support Page](#). You may also call +1 (888) 799-9666 ext. 2. They are available 24/7.

- **Marshall Systems (MyMarshall, Marshall Outlook email)**
For assistance with Marshall systems you can call +1 (213) 740-3000 Mon-Fri 8am-6pm (Pacific), email HelpDesk@marshall.usc.edu, or use our self-help service portal as shown below. The portal allows you to get immediate assistance by searching for the information you need. You can also use it to chat with a technician or input a request. To access the service portal, follow these steps:
 - On a computer or mobile device, go to [MyMarshall Home Page](#) and click the “**Help**” link on the upper right.
 - Log in using your Marshall username and password.
(If you don’t know your Marshall login please follow the onscreen instructions pertaining to login issues)

If your computer does not have Microsoft Word, Office 365 package is available to you free of charge and allows you to install Word, Excel, PowerPoint, Outlook, OneNote, Publisher, and Access on up to 5 PCs or Macs and Office apps on other mobile devices including tablets. Office 365 also includes unlimited cloud storage on OneDrive. To download Office 365 log into your student (University) email through a web browser, choose Settings (top right corner), and select software. If you have further questions or need help with the software, please contact the USC ITS service portal.

Emergency Preparedness/Course Continuity

If an officially declared emergency makes travel to campus infeasible, USC Emergency Information (<http://emergency.usc.edu/>) will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.

McGraw-Hill's Connect

McGraw Hill's Connect is an online learning system where you can:

- Access two electronic versions of your textbook – a static eText that you can annotate and highlight, and an adaptive reading experience with personalized quizzes, called *SmartBook*.
- Complete homework assignments and practice assignments directly from your textbook, complete with tutorial videos, guides, and additional resources.
- Study more efficiently with a personalized study plan and exercises that match your book.

Before You Begin:

To register for Connect, you need:

- A Connect student access code** (packaged with your new text if you purchase a hard copy at the bookstore, or available for purchase with a major credit card when registering with McGraw-Hill online)
- Access to your BUAD 310 course in Blackboard**
- A valid email address**

Student Registration:

Create your McGraw-Hill Connect Account and Complete Your Registration. **Student Registration:**

Go to <https://connect.mheducation.com/class/buad310-fall2021-sesia>

Registration options

1. **Register on the McGraw-Hill site by going to the Blackboard section and clicking on the McGraw-Hill button and then follow the link to [Go to My Connect Section](#).** This will take you to a page where you can create your McGraw-Hill Connect Account and complete your Registration. This will give you a Connect license, which will give you an eBook and enable you to do the homework. In addition, you will also have the option to purchase a three-hole punched loose-leaf version of the text for \$39.
2. **Get a two-week trial Connect access.** Use option 1. above and select the trial option. This is a good option if you are not sure you are going to stay enrolled in the class.

Once your registration is complete, a **Confirmation** page appears. You will also receive this information by email. You are now ready to access your resources!

To access your Connect assignments:

- Click on any Connect assignment from within your Blackboard course (they will appear when assigned).
- Connect will automatically open directly to that assignment. Once you complete an assignment and select "Submit," your grade will automatically flow to your Blackboard grade book.
- *Always access your Connect assignments through Blackboard! If you access directly through McGraw-Hill, your grades may not sync over.*

Tech Support & FAQ:

Call: (800) 331-5094

Email & Chat: www.mhhe.com/support

Monday - Thursday • 24 hours

Friday • Until 6:00 PM

Saturday • 7 AM - 5 PM

Sunday • Until 9:00 PM

(All times Pacific)

Training & Tutorials:

connectstudentsuccess.com

Student Registration for Connect through Blackboard

- Sign into your school's Blackboard.
- Go to your instructor's course.
- Go to the "Tools" menu.
- Click on the "McGraw-Hill Education" link.
- Below "My Connect Section", click **Go to My Connect Section**.
- Follow the on-screen instructions to register.



Welcome

Need help? [Contact customer service](#) →

BUAD 310 - FALL 2021
14912



INSTRUCTOR
MATTEO SESIA



APPLIED STATISTICS IN BUSINESS
AND ECONOMICS
DAVID DOANE, 7TH ED.

Enter your email to join this class:

By using this site you agree
to the [Terms of Use and Privacy Notice](#).

BEGIN



Already in this class? [Sign in](#)

TENTATIVE COURSE SCHEDULE – BUAD 310
(Test dates are set, but topics and homework due dates may be modified.)

Week	Date	Topics	Book Chapters [Doane & Stewart]	Homework	Due Dates
1	8/23	Introduction	1.1-1.5		
	8/25	Descriptive Statistics	2.1-2.4, 3.2-3.9		
2	8/30	Descriptive Statistics (continued)	4.1-4.5		
	9/1	Correlation & Covariance	4.6	HW#1	9/8
3	9/6	LABOR DAY			
	9/8	Probability: Basic Concepts	5.1-5.3	HW#2	9/15
4	9/13	Probability (continued)	5.4-5.5		
	9/15	Random Variables	6.1, 6.2, 6.8	HW#3	9/22
5	9/20	Binomial Distribution	6.4		
	9/22	Uniform and Normal Distributions	7.1-7.4	HW#4	9/29
6	9/27	Sampling Distributions, Central Limit Theorem	8.1-8.2		
	9/29	Confidence Interval for Mean	8.3-8.4	HW#5	10/6
7	10/4	Confidence Interval for a Proportion	8.5		
	10/6	Hypothesis testing, testing a mean (known variance)	9.1-9.4	HW#6	10/13
8	10/11	Testing a mean (unknown variance)	9.5		
	10/13	Testing a proportion	9.6		
9	10/18	Review for Midterm Exam			
	10/20	Midterm Exam			
10	10/25	Comparing two sample means	10.3-10.4		
	10/27	Chi-Square Test for Independence/Goodness of fit	15.1-15.2	HW#7	11/03
11	11/1	Correlation coefficient and intro to simple regression	12.1-12.3		
	11/3	Simple Regression: OLS, significance tests	12.4-12.6	HW#8	11/10
12	11/8	Simple Regression: diagnostics & transformations	12.8, 12.10		
	11/10	Multiple Regression	13.1, 13.3	HW#9	11/17
13	11/15	APPLICATION EXAM (in Lecture)			
	11/17	Multiple Regression (assessing overall fit)	13.2	HW#10	12/1
14	11/22	Multiple Regression (multicollinearity)	13.7		
	11/24	THANKSGIVING BREAK			
15	11/29	Ethical statistical practices and common pitfalls			
	12/01	Review for Final Exam			
Saturday, December 11 2:00–4:00 pm		FINAL EXAM			

The schedule above shows the topics covered each week in lecture and the corresponding reading assignments from the textbook. The sections in the reading assignments include some topics that you are **not** responsible for. These topics are indicated in the Exclusions table below. The reading must be done in Connect and completed by 11:59 PM of the Sunday after the topic is covered in lecture. For example, if Probability (continued) is covered in lecture on Wednesday, September 8, Sections 5.1 to 5.3 of the book (not including the topics listed in the Exclusions table) must be read by the end of the day Sunday, September 12.

The schedule for the Application (discussion) sessions is on the next page. The schedule of lectures might be revised slightly during the semester, but the dates for the Midterm, Application and Final exams are fixed.

Week	Date	Book Chapters [Doane & Stewart]	Exclusions
1	8/23	1.1-1.5	
	8/25	2.1-2.4, 3.2-3.9	Random sampling methods, non-random sampling, other data collection methods
2	8/30	4.1-4.5	Geometric mean, midrange, mean absolute deviation, Chebyshev's theorem, method of medians, fences, midhinge
	9/1	4.6	
3	9/6	LABOR DAY	
	9/8	5.1-5.3	Classical approach, subjective approach, odds of an event
4	9/13	5.4-5.5	
	9/15	6.1-6.2, 6.8	
5	9/20	6.4	Using tables: Appendix A
	9/22	7.1-7.4	Normal areas with tables (Appendices C-1 and C-2)
6	9/27	8.1-8.2	Efficiency and consistency
	9/29	8.3-8.4	Using Appendix D
7	10/4	8.5	Rule of three
	10/6	9.1-9.4	How are alpha and beta calculated
8	10/11	9.5	
	10/13	9.6	Small samples and non-normality
9	10/18		
	10/20		
10	10/25	10.3-10.4	Unequal variances
	10/27	15.1-15.2	3-way tables and higher, GOF tests for other distributions, data generating situations, mixtures: a problem, eyeball tests
11	11/1	12.1-12.3	
	11/3	12.4-12.6	
12	11/8	12.8, 12.10	Auto-correlated errors, outliers, model misspecification, ill-conditioned data, spurious correlation
	11/10	13.1, 13.3	
13	11/15		
	11/17	13.2	
14	11/22	13.7	

The schedule of Application (discussion) sessions is shown below.

Students are divided into 4 distinct sections for applications.

- 14897: Mon 4:00-5:10pm
- 14898: Mon 5:20-6:30pm
- 14899: Wed 4:00-5:10pm
- 14910: Wed 5:20-6:30pm

Week #	Week of	TOPIC
1	8/23	Excel Tutorial
2	8/30	Application Problem Set 1
3	9/6	Application Problem Set 2 *
4	9/13	Application Problem Set 3
5	9/20	Application Problem Set 4
6	9/27	Application Problem Set 5
7	10/4	Application Problem Set 6
8	10/11	Application Problem Set 7
9	10/18	No Discussion (Midterm exam week)
10	10/25	Application Problem Set 8
11	11/01	Review for Application Exam
12	11/8	Application Problem Set 9
12	11/15	No Discussion (Application exam week)
14	11/22	No Discussion (Thanksgiving week)
15	11/29	Review for Final Exam

* The application section on Monday 9/6 will be pre-recorded on Zoom and available asynchronously instead of in person, due to the Labor day holiday. The Wednesday section that week will take place as usual.

APPENDIX I

How BUAD310 Applied Business Statistics Contributes to Student Achievement of Marshall's Six Undergraduate Program Learning Goals

Goal	Marshall Program Learning Goal	BUAD310 Course Objectives that support this goal
1	<p>Our graduates will demonstrate critical thinking skills so as to become future-oriented decision makers, problem solvers and innovators.</p> <p>Specifically, students will:</p> <p>1.1 Students will understand the concepts of critical thinking, entrepreneurial thinking and creative thinking as drivers of innovative ideas (not explicit for this course).</p> <p>1.2 Critically analyze concepts, theories and processes by stating them in their own words, understanding key components, identifying assumptions, indicating how they are similar to and different from others and translating them to the real world.</p> <p>1.3 Be effective at gathering, storing, and using qualitative and quantitative data and at using analytical tools and frameworks to understand and solve business problems.</p> <p>1.4 Demonstrate the ability to anticipate, identify and solve business problems. They will be able to identify and assess central problems, identify and evaluate potential solutions, and translate a chosen solution to an implementation plan that considers future contingencies.</p>	<p>1.Explain the concepts of descriptive statistics and use sample statistics to make inferences about population characteristics</p> <p>2.Recognize different models of statistical processes such as hypothesis testing and linear and multiple regression</p> <p>3.Explain statistical processes and choose which process to use for particular data analysis applications</p> <p>4.Interpret statistical results as a basis for decision making</p> <p>5.Use applicable statistics software</p> <p>6.Collaborate effectively to use statistical analysis to address business challenges</p> <p>8.Become a very proficient user of Excel</p>
2	<p>Our graduates will develop people and leadership skills to promote their effectiveness as business managers and leaders in the 21st century's evolving work and organizational structures.</p> <p>Specifically, students will:</p> <p>2.1 Students will recognize, understand and analyze the roles, responsibilities and behaviors of effective managers and leaders in diverse business contexts e.g., functionally diverse, culturally diverse, geographically diverse, etc.</p> <p>2.2 Students will understand factors that contribute to effective teamwork including how to elicit, manage and leverage diverse perspectives and competencies.</p> <p>2.3 Students will recognize, understand, and analyze the motivations and behaviors of stakeholders inside and outside organizations (e.g., teams, departments, consumers, investors, auditors)</p>	<p>6.Collaborate effectively to use statistical analysis to address business challenges</p>
3	<p>Our graduates will be effective communicators to facilitate information flow in organizational, social, and intercultural contexts.</p> <p>Specifically, students will:</p> <p>3.1 Identify and assess diverse personal and organizational communication goals and audience information needs.</p> <p>3.2 Understand individual and group communications patterns and dynamics in organizations and other professional contexts.</p> <p>3.3 Demonstrate an ability to gather and disseminate information and communicate it clearly, logically, and persuasively in professional contexts.</p>	<p>7.Communicate your interpretation of the results of statistical analysis logically and persuasively</p>

<p>4</p>	<p>Our graduates will demonstrate ethical reasoning skills, understand social, civic, and professional responsibilities and aspire to add value to society. Specifically, students will: 4.1 Understand professional codes of conduct. 4.2 Recognize ethical challenges in business situations and assess appropriate courses of action.</p>	<p>8. Understand the ethical guidelines for statistical practice</p>
<p>5</p>	<p>Our graduates will develop a global business perspective. They will understand how local, regional, and international markets, and economic, social and cultural issues impact business decisions so as to anticipate new opportunities in any marketplace. Specifically, students will: 5.1 Understand how local, regional and global markets interact and are impacted by economic, social and cultural factors. 5.2 Understand that stakeholders, stakeholder interests, business environments (legal, regulatory, competitor) and business practices vary across regions of the world.</p>	<p>N/A</p>
<p>6</p>	<p>Our graduates will understand types of markets and key business areas and their interaction to effectively manage different types of enterprises. Specifically, students will: 6.1 Demonstrate foundational knowledge of core business disciplines, including business analytics and business economics. 6.2 Understand the interrelationships between functional areas of business so as to develop a general perspective on business management. 6.3 Apply theories, models, and frameworks to analyze relevant markets (e.g. product, capital, commodity, factor and labor markets). 6.4 Show the ability to utilize technologies (e.g., spreadsheets, databases, software) relevant to contemporary business practices.</p>	<p>1.Explain the concepts of descriptive statistics and use sample statistics to make inferences about population characteristics 2.Recognize different models of statistical processes such as hypothesis testing and linear and multiple regression 3.Explain statistical processes and choose which process to use for particular data analysis applications 4.Interpret statistical results as a basis for decision making 5.Use applicable statistics software 6.Collaborate effectively to use statistical analysis to address business challenges 7.Become a proficient user of Excel</p>