

Math 2345-Fall 2018 Business Statistics

Professor: Dr. Kathleen Gilliam

Office: Math 117B

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Office Hours: MWF 10:50 am to 12:50 pm

Teaching Assistants: See announcements for full details on TA's

WEB Site: <http://www.math.ttu.edu/~xgilliam>

Prerequisites: Math 13xx with at least grade of C. **Textbook:** “Essentials of Modern Business Statistics” (Texas Tech Custom Edition), by Anderson, Sweeney, and Williams.

Civility in the Classroom: Students are expected to assist in maintaining a classroom environment that is conducive to learning. In order to assure that all students have an opportunity to gain from time spent in class, troublesome behavior will not be tolerated. At a minimum, this includes using cellular phones, making offensive remarks, reading newspapers, sleeping or engaging in any other form of distraction.

Honesty: Any acts of scholastic dishonesty such as cheating, plagiarism, and collusion are not allowed.

Daily Homework, On-line Homework and Quizzes: Daily Homework will be assigned from the textbook. There will be 9 in-class multiple choice quizzes and 8 on-line Homework sets based on the daily Assignments. For the quizzes, the two lowest quiz scores will be dropped and the remaining scores will be worth 15% of the final grade. For the on-line Homework, you have up to three chances to attempt the questions and the best score will be recorded. Note that the Homework deadline is at 10:59 pm of the due dates. The Homework assignment due dates are made available well in advance. You will also be reminded of these due dates as the time approaches. There is no acceptable excuse for contacting me after the due date expecting me to reopen a set for you. This includes complaints about software problems near the due date. My advice is don't wait until the last minute to turn in the on-line Homework. The best six on-line Homework scores will be worth 10% of the final grade.

On-line Homework (Aplia Course Key: MEBU-EGLL-2GSF) Registration:

Connect to <https://www.cengage.com/dashboard/#/course-confirmation/MEBU-EGLL-2GSF/initial-course-confirmation>.

1. Follow the prompts to register for your Aplia course. Use your official name as listed with TTU.
2. You can access Aplia during your free trial.

Tests: There will be three midterms and a **Comprehensive** final. For each test you need to bring an orange scantron sheet, pencils, and a calculator. Each of the three midterms will be worth 20% and the final exam will be worth 15%.

Make-up Exams and Quizzes: Requests for make-ups will be granted **ONLY** when accompanied by a letter from an appropriate university official, i.e. the Dean of Students. In all other cases, no make-up will be given, and the procedures outlined in this syllabus will be followed. **There are no exceptions to this rule.**

Grading Policies: Grades will be assigned based on your overall course average:

90%-100%	A	80%-89.9%	B	70%-79.9%	C
60%-69.9%	D	59.9% and below	F		

Lectures: The schedule below indicates the daily topics to be covered in class, the due dates for the dates for the exams and quizzes.

Math 2345 Calendar (Fall 2018)

Date	Material Covered Description	Text Readings (Homework)
Aug. 27	Introduction	Ch 1 (pg26-28: #4, #6, #8, #10)
Aug. 29	Presenting Data Part 1 (Categorical)	Ch 2.1,2.4 (pg45-46: #2, #4)
Aug. 31	Presenting Data Part 2 (Quantitative)	Ch 2.2, 2.3 (pg62: #14, #16)
Sept. 5	About Aplia (on-line Homework) and Quiz 1	
Sept. 7	Measure of Location and Variability	Ch 3.1, 3.2 (pg120: #2, #4; pg132: #24)
Sept. 10	Distribution Shapes and Boxplot	Ch 3.3, 3.4 (pg146: #46, #48)
Sept. 12	Basic Probability and Conditional Probability	Ch 4.2-4.4 (pg199: #22, pg206: #32)
Sept. 14	More Probabilities and Quiz 2	
Sept. 17	Discrete Random Variable and Its Applications	Ch 5.1-3 (pg233-234: #10, #14; pg237: #16)
Sept. 19	Binomial Distribution	Ch 5.4 (pg2490251: #26, #28, #36)
Sept. 21	Normal Distribution	Ch 6.2 (pg287-288: #10, #12, #20, #22)
Sept. 24	Normal Distribution (Cont.) and Quiz 3	Ch 6.2
Sept. 26	Summary and Review for EX1	
Sept. 28	Friday Midterm Exam 1 (Ch1-Ch6)	
Oct. 1	Sampling Distributions	Ch7.1-7.5(pg325-326:#16,#22,#24 pg331:#28)
Oct. 3	Confidence Interval for Mean	Ch 8.1-8.2(pg349-350: #2 #10; pg359:#14,#16)
Oct. 5	Confidence Interval for Proportion	Ch 8.4 (pg369: #32, #36)
Oct. 8	Intro. Hypothesis Tests and Quiz 4	Ch 9.1 9.2 (pg386: #2, #4, pg389: #8)
Oct. 10	Hypotheses Testing for a Single Mean	Ch 9.3-9.4 (pg403: #10, #12 pg411-412: #24, #26)
Oct. 12	Hypotheses Testing for a Single Proportion	Ch 9.5 (pg418: #36, #38)
Oct. 15	Hypotheses Testing for two Means and Quiz 5	Ch 10.1
Oct. 17	Hypotheses Testing for two Means (cont.)	Ch 10.2-3 (pg438-439:#2,#4; pg448: #10)
Oct. 19	Hypotheses Testing for two Proportions	Ch 10.3; 11.1 (pg456: #20; pg497: #2, #8)
Oct. 22	Some Remarks of Testing and Quiz 6	
Oct. 24	Review for EX2	
Oct. 26	Friday Midterm Exam 2 (CH7-CH11)	
Oct. 29	χ^2 Test for proportions	Ch 11.2 (pg507: #11, #12, #14)
Oct. 31	Linear Regression Model	Ch 12.1-3 (pg539: #2; pg551: #16, #18)
Nov. 2	Testing and Interval Estimation	Ch 12.5 (pg563: #26; pg569-570: #32, #36)
Nov. 5	Some remarks and Quiz 7	
Nov. 7	Intro to Multiple Regression	Ch 13.1-3 (pg620-621: #1, #4; pg627: #14)
Nov. 9	Testing for Multiple Regression	Ch 13.4 (pg634: #20; pg658: #46)
Nov. 12	Some remarks and Quiz 8	
Nov. 14	Intro to Xbar and R Charts	Ch 15.1-2 (pg755: #2, #4)
Nov. 16	Intro P Chart	Ch 15.2 (pg756: #8)
Nov. 19	Remarks and Quiz 9	
Nov. 26	Review for EX3	
Nov. 28	Wednesday Midterm Exam 3 (CH11-CH14)	
Nov. 30	Intro to Time-Series Analysis	Ch 14 (pg691: #6)
Dec. 3	Review for the final (1)	
Dec. 5	Review for the final (2)	

Final Exam 1:00 MWF Section: Tuesday, Dec. 11, 1:30 PM—4:00 PM, Room: MCOM 67
2:00 MWF Section: Wednesday, Dec. 12, 4:30PM—7:00PM, Room: MCOM 67

Aplia (on-line Homework) Schedules		
ASSIGNMENT #	CHAPTERS	DUE DATES
Assignment 1	Introduction to Using Aplia	September 7
Assignment 2	Ch 3 Numerical Measures	September 14
Assignment 3	Ch 5 Discrete Distribution	September 24
Assignment 4	Ch 6 Normal Distribution	October 1
Assignment 5	Ch 8 Confidence Interval	October 10
Assignment 6	Ch 9 Hypotheses Testing	October 22
Assignment 7	Ch12 Linear Regression	November 9
Assignment 8	Ch13 Multiple Regression	November 19

Disabled Students: Please advise me of your condition and provide a letter of verification as soon as possible. I will make necessary accommodation.

Student absence for Observance of Religious Holy Day: Please advise me of your absence prior to the event and I will make necessary accommodation.

Student learning outcomes and assessment: Students will learn the meanings of, and computational procedures related to, the elementary statistical concepts used for making decisions in business and economics. In particular, students will

1. Appreciate the role of statistics in business decision making.
2. Understand the need to be wary of statistical claims, common pitfalls in sampling, and misrepresentation of conclusions.
3. Understand the meanings of various statistical measures, including the mean, median, mode, standard deviation, variance, and quartiles.
4. Become familiar with various graphical representations of data and learn to recognize misleading graphs.
5. Develop proficiency in real-world probability problems.
6. Understand the concept of a probability distribution and real-world problems, involving the binomial and normal distributions.
7. Understand and apply the Central Limit Theorem.
8. Compute and interpret confidence intervals.
9. Conduct and interpret hypothesis tests.
10. Understand linear regression models.
11. Understand the construction and use of control charts.
12. Understand the based concepts of time series.

Printing the Class Notes: Please print the class notes prior to the classes. The notes are available in PDF format on the class website through the box that says **Class Handouts**:

http://www.math.ttu.edu/~xgilliam/classes/m2345/math_2345.htm