Statistics I

MATH 1342.009 – SPRING 2023

Instructor:	Mrs. Traci Mayo
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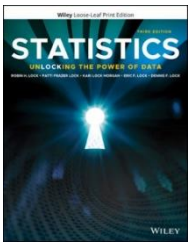
The best way to contact me is through messages on Canvas.

Classroom:	RBN 4024
Class Times:	MW 5:40 – 7:05
Office:	MLC – RBN 4021
Office Hours:	MW 5:00 – 5:30

Course Description – Can you trust the statistics that you read online? Your doctor wants you to make a decision but only gives you statistics. How do you make the decision? You must make a critical decision at work. You look at the results of a statistical study. What should you do? This course will explain the inner workings of statistics. You will learn the meaning of measurements of central tendency and dispersion; sampling; probability; testing of hypothesis; correlation and regression; and analysis of variance. More importantly, you will learn how you can use statistics to improve your life and conduct your work. The prerequisite for this course is an appropriate score on ACT, SAT, STAAR, TSI, or special permission.



Textbook and Homework – We will be using Wiley Plus, an online teaching and learning platform, in this course. **You must purchase this service to do your homework.** The service allows you to access an online textbook, online homework, and supplemental videos and homework. If you are using financial aid or scholarship money to purchase this subscription, you need to go to the bookstore. If you are using a credit card to purchase this subscription, you can do it on Canvas.

Website – You will be using Canvas. Go to www.uttyler.edu/canvas to log into Canvas using your regular Patriots account. If you have enrolled in the course, you should have access to the website. You will find important documents, grades, and announcements on Canvas. In general, I will notify you on Canvas if there are any disruptions or changes to our class.

Calculator Policy – Non-graphing calculators will be needed in this course and will be allowed on assessments. You may not use the calculator on your phone on assessments. **The calculator you use needs to have a square root key.** You can use a scientific calculator or a four-function calculator.

Make Up Policy – Make ups for documented absences that are required as a part of a UT Tyler obligation (i.e., athletic events, a debate contest, etc.) or for a religious observation will be granted. For all make ups of this type, prior notification of at least one week and documentation will be required. Other make ups are granted only in extreme cases such as hospitalization and are at the sole discretion of the instructor.

Course Evaluation – At the end of the semester, you will find your final grade on my.uttyler.edu. It will also be posted on Canvas.

- 90% is guaranteed to be an A.
- 80% is guaranteed to be at least a B.
- 70% is guaranteed to be at least a C.
- 60% is guaranteed to be at least a D.
- All grades below 60% will be an F.

Learning Outcomes

At the conclusion of this course, you will be able to

1. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
2. Recognize, examine and interpret the basic principles of describing and presenting data.
3. Examine, analyze and compare various sampling distributions for both discrete and continuous random variables.
4. Describe and compute confidence intervals.
5. Solve linear regression and correlation problems.
6. Perform hypothesis testing using statistical methods.

The Plan

HOMEWORK (15%): Homework will be assigned for each section of each chapter through an online platform called Wiley Plus. You will access the assignments through Canvas. In general, a group of homework assignments will become available on Monday of each week. It will be due at 5PM on the following Monday. You will be provided with instant feedback on your answers, as well as multiple attempts to complete most problems. Use this to your advantage. **You will not be able to submit homework assignments after the due date.** The Wiley Plus system is not flawless so the grading may be adjusted for any glitches that may arise. Please let me know as soon as possible if you suspect a problem with Wiley Plus.

QUIZZES (20%): There will be ten quizzes this semester. They will be given in class on paper. The purpose of quizzes is to make sure that you are staying on track and generally understanding the material from each chapter. I will drop your lowest quiz grade.

TESTS (40%): There will be three tests. They will be given in class on paper. These assessments will test your knowledge of the material taught in class and practiced on the homework and the quizzes. Your lowest test grade will be dropped.

FINAL EXAM (10%): This will be in person and on paper during the week of April 24th. The final exam will be comprehensive. I will count your final exam grade as the final exam and as a 4th test grade. Stay tuned for more information.

PROJECT (10%): This will be an individual project. No class time will be given for this project. You will use concepts from chapters 1 – 6 to complete this project. It will be submitted electronically as a PDF and will be due on Sunday, April 23rd at 11:59PM. Stay tuned for more information.

ATTENDANCE & CLASS PARTICIPATION (5%): Students learn math better in person than they do online. This is a face-to-face class. You signed up to take this class knowing it will meet every Monday and Wednesday from 5:40 – 7:05 PM. Therefore, your attendance and participation are required. Attendance will be taken during each class. I understand that things come up. Therefore, you are allowed to have 3 absences this semester and still receive all the points. Your attendance is mandatory on quiz/test days.

STATISTICS SEMESTER CALENDAR – SPRING 2023

Sections Covered in Textbook and Tentative Dates

Date	Sections	Date	Sections
Mon, 1/9	Class Intro 1.1 The Structure of Data	Mon, 3/6 **H/W due**	Quiz (Sections 4.1 and 4.2) 4.3 Determining Statistical Significance
Wed, 1/11	1.2 Sampling from a Population 1.3 Experiments & Observational Studies	Wed, 3/8	4.3 Determining Statistical Significance 4.4 A Closer Look at Testing
Mon, 1/16	HOLIDAY	Mon, 3/13	SPRING BREAK
Wed, 1/18	2.1 Categorical Variables 2.2 One Quantitative Variable: Shape & Center	Wed, 3/15	SPRING BREAK
Mon, 1/23 **H/W due**	Quiz (Sections 1.1, 1.2, 1.3, and 2.1) 2.2 One Quantitative Variable: Shape & Center 2.3 One Quantitative Variable: Measure of Spread	Mon, 3/20 **H/W due**	Quiz (Sections 4.3 and 4.4) Review for Test
Wed, 1/25	2.4 Boxplots and Quantitative/Categorical Relationships	Wed, 3/22	Test (Chapters 3 and 4)
Mon, 1/30 **H/W due**	Quiz (Sections 2.2, 2.3, and 2.4) 2.5 Two Quantitative Variables: Scatterplot and Correlation	Mon, 3/27	5.1 Hypothesis Testing Using Normal Distributions
Wed, 2/1	2.6 Two Quantitative Variables: Linear Regression	Wed, 3/29	5.2 Confidence Intervals Using Normal Distributions
Mon, 2/6 **H/W due**	Quiz (Sections 2.5 and 2.6) Review for Test	Mon, 4/3 **H/W due**	Quiz (Sections 5.1 and 5.2) 6.1 Inferences for a Proportions
Wed, 2/8	Test (Chapters 1 and 2)	Wed, 4/5	6.2 Inference for a Mean
Mon, 2/13	3.1 Sampling Distributions	Mon, 4/10 **H/W due**	Quiz (Section 6.1 and 6.2) 6.3 – Inferences for a Diff in Proportions
Wed, 2/15	3.2 Understanding and Interpreting Confidence Intervals	Wed, 4/12	6.4 – Inferences for a Difference in Means
Mon, 2/20 **H/W due**	Quiz (Sections 3.1 and 3.2) 3.3 Constructing Bootstrap Confidence Intervals	Mon, 4/17 **H/W due**	Quiz (Sections 6.3 and 6.4) Review for Test
Wed, 2/22	3.3 Constructing Bootstrap Confidence Intervals 3.4 Bootstrap Confidence Intervals Using %iles	Wed, 4/19	Test (Chapters 5 and 6)
Mon, 2/27 **H/W due**	Quiz (Sections 3.3 and 3.4) 4.1 Introduction to Hypothesis Testing	Mon, 4/24	Study Session for Final
Wed, 3/1	4.2 Measuring Evidence with p-Values	Wed, 4/26	Final Exam 7:15PM – 9:15PM

- Homework is due every Monday by 5PM, except for any Monday following a test or that is a holiday. There will be a short quiz given at the beginning of class each day homework is due.
- March 23rd is the last day to withdraw from a 15-week course.
- The project will be due on Sunday, April 23rd, at 11:59PM.
- Final grades are due from me at noon on May 2nd.

COVID

It is important to take the necessary precautions to ensure a healthy and successful year. UT Tyler continues to urge you to protect yourselves against the flu, COVID and any new threats that may be developing. Be diligent about preventive measures such as washing hands, covering sneezes/coughs, social distancing and vaccinations, which have proven to be successful in slowing the spread of viruses. Encourage those who don't feel well to stay home, and if they show symptoms, ask them to get tested for the flu or COVID. Self-isolation is important to reduce exposure (CDC quarantine/isolation guidelines). Please work with your faculty members to maintain coursework and please consult existing campus resources for support.