

Statistics I, Math. 1342.002, 2:30 – 3:55 pm MW, RBN 3040, Spring 2024

Instructor: Ms. Nan Bailey, nbailey@uttyler.edu

Office: RBN 4009, Office Hours: MW 11:10 – 12:10, F 9 – 10, or by appointment

Course Description: This course aims to help you make sense of data – which are everywhere! It will empower you to make good decisions as consumers and citizens, and hopefully give you the critical thinking skills to think about the world rationally. Here are your learning outcomes:

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.

Course Evaluation:

Average of 3 Quizzes 10%

Average of 3 Tests 60%

Final Examination (comprehensive) 30%

I give partial credit wherever possible, especially when I can read it (!) Most answers need to be supported by some work.

I will keep a daily record of attendance once at the beginning of class, and I will be required to share this, as well as missed or low grades, with the university when they ask for a list of students in danger of failing. If you come in late and would like credit for attendance, please notify me at the end of class. I will reward good attendance (2 or fewer missed classes) with 1 **average point** at the end of the semester.

Homework will be assigned, but it will not be graded. We will begin each class with a Q&A session about the homework, and you can expect that quizzes and tests will be very similar to homework problems. Makeup tests will not be given, except for official university reasons. If you miss a test for another reason that grade will be a 0 until you take the final exam. I will substitute the final exam grade for the lowest test grade. I do this for everyone, so it is to your advantage to take all three tests. Everyone takes the final exam. No early finals will be given.

Our textbook is [Statistics, Unlocking the Power of Data](#), Third Edition, by the Lock family.

ISBN 9781119682202

You will need a basic calculator on much of our work – it does not need to have much more than the 4 functions and maybe a square root button. There will be no extra credit or special assignments for any reason. In addition to my office hours, here are other resources available to you:

Supplemental Instruction (SI): <http://www.utt Tyler.edu/si/includes/sub-nav.php>

Math Learning Center (MLC): RBN 4021. This offers free drop-in homework help.

PASS Center: LIB 401. Free individual tutoring appointments <https://www.utt Tyler.edu/tutoring>

Cell phone policy: Please set your cell phones to silent mode. If you are expecting an emergency call, please notify me in advance of class, sit near the door, and answer the call outside of the classroom.

Jan. 29 is the Census date, and it is the last day to withdraw without penalty. Please check out this link for university syllabus policies: <http://www.utt Tyler.edu/academicaaffairs/files/syllabuspolicy.pdf>

Here is an approximate syllabus for our class:

Spring 2024 – Math. 1342.002 – Nan Bailey

Monday and Wednesday 2:30 – 3:55, RBN 3040

Monday Jan. 15	MLK Day
Wednesday Jan. 17	Introduction and 1.1 The Structure of Data
Monday Jan. 22	1.2 Sampling from a Population
Wednesday Jan. 24	1.3 Experiments and Observational Studies
Monday Jan. 29	2.1 Categorical Variables
Wednesday Jan. 31	2.2 One Quantitative Variable: Shape and Center, Quiz 1
Monday Feb. 5	2.3 One Quantitative Variable: Measures of Spread
Wednesday Feb. 7	2.4 Boxplots and Quantitative/Categorical Relationships
Monday Feb. 12	Test 1
Wednesday Feb. 14	2.5 Two Quantitative Variables: Scatterplot and Correlation
Monday Feb. 19	2.6 Two Quantitative Variables: Linear Regression
Wednesday Feb. 21	3.1 Sampling Distributions, Quiz 2
Monday Feb. 26	3.2 Understanding and Interpreting Confidence Intervals
Wednesday Feb. 28	3.3 Constructing Bootstrap Confidence Intervals
Monday March 4	3.4 Bootstrap Confidence Intervals Using Percentiles
Wednesday March 6	Test 2
March 11-15 Spring Break	
Monday March 18	4.1 Introducing Hypothesis Tests
Wednesday March 20	4.2 Measuring Evidence with P-Values
Monday March 25	4.3 Determining Statistical Significance
Wednesday March 27	4.4 A Closer Look at Testing, Quiz 3
Monday April 1	4.5 Making Connections

Wednesday April 3	5.1 Hypothesis Tests Using Normal Distributions
Monday April 8	5.2 Confidence Intervals Using Normal Distributions
Wednesday April 10	Test 3
Monday April 15	6.1 Inference for a Proportion
Wednesday April 17	6.2 Inference for a Mean
Monday April 22	6.3 Inference for a Difference in Proportions
Wednesday April 24	6.4 Inference for a Difference in Means
Wednesday May 1, 2:45 – 4:45, Final Exam	