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.uttyler.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.uttyler.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 our Census Day, the last day to withdraw without penalty. Please check out this link for university syllabus policies: http://www.uttyler.edu/academicaffairs/files/syllabuspolicy.pdf

Here is an approximate syllabus for our class:

Spring 2024 – Math. 1342.009 – Nan Bailey

Tuesday and Thursday 2 – 3:20 pm, RBN 4027

Tuesday Jan. 16	Introduction and 1.1 The Structure of Data
Thursday Jan. 18	1.2 Sampling from a Population
Tuesday Jan. 23	1.3 Experiments and Observational Studies
Thursday Jan. 25	2.1 Categorical Variables
Tuesday Jan. 30	2.2 One Quantitative Variable: Shape and Center, **Quiz 1**
Thursday Feb. 1	2.3 One Quantitative Variable: Measures of Spread
Tuesday Feb. 6	2.4 Boxplots and Quantitative/Categorical Relationships
Thursday Feb. 8	**Test 1**
Tuesday Feb. 13	2.5 Two Quantitative Variables: Scatterplot and Correlation
Thursday Feb. 15	2.6 Two Quantitative Variables: Linear Regression
Tuesday Feb. 20	2.7 Data Visualization and Multiple Variables
Thursday Feb. 22	3.1 Sampling Distributions, **Quiz 2**
Tuesday Feb. 27	3.2 Understanding and Interpreting Confidence Intervals
Thursday Feb. 29	3.3 Constructing Bootstrap Confidence Intervals
Tuesday March 5	3.4 Bootstrap Confidence Intervals Using Percentiles
Thursday March 7	**Test 2**
March 11-15 Spring Break	
Tuesday March 19	4.1 Introducing Hypothesis Tests
Thursday March 21	4.2 Measuring Evidence with P-Values
Tuesday March 26	4.3 Determining Statistical Significance
Thursday March 28	4.4 A Closer Look at Testing, **Quiz 3**
Tuesday April 2	4.5 Making Connections

Thursday April 4   5.1 Hypothesis Tests Using Normal Distributions

Tuesday April 9   5.2 Confidence Intervals Using Normal Distributions

Thursday April 11   ***Test 3***

Tuesday April 16   6.1 Inference for a Proportion

Thursday April 18   6.2 Inference for a Mean

Tuesday April 23   6.3 Inference for a Difference in Proportions

Thursday April 25   6.4 Inference for a Difference in Means

Tuesday April 30, 2 – 4 pm, Final Exam