SPRING 2021 MATH 1680.130

Elementary Probability and Statistics

MWF 2:00 – 2:50 pm
Remote (Zoom ID: 844 5108 0499)

Instructor:	Emmanuel Tamakloe
Office Hours:	T, TR: 2:00 – 3:00pm, or by appointment (Office hours will be held on Zoom) Personal meeting ID: 303 078 4700
Office:	GAB 442C
Email:	emmanuel.tamakloe@unt.edu

Lab:	MATH 1680.131	T 1:00 – 1:50 pm	Remote	Hong Tran
	MATH 1680.132	T 11:00 – 11:50 am	Remote	Katherine Dunlop
	MATH 1680.133	T 12:00 – 12:50 pm	Remote	Jessica Baas

Course Description: Introductory course to serve students of any field who want to apply statistical inference. Descriptive statistics, elementary probability, estimation, hypothesis testing and small samples.

Prerequisites: TSI Complete

Textbook (Required): Sullivan and Woodbury. *Interactive Statistics: Informed Decisions Using Data*, 2nd edition. Pearson, 2019. Access to the interactive textbook is included with MyLab Statistics. Students must create a MyLab Statistics account in time to complete the first homework assignment and finalize their purchase before the end of the 14-day free trial.

Guided Notebook: You are encouraged to fill out the guided notebook as you complete the interactive assignments prior to class (see below). Click on "Guided Notebook" in the left navigation column of MyLab Statistics to access the guided notebook.

Lecture Notes: Lecture notes for the semester are available on Canvas. I recommend printing them out before class so that you can focus on the concepts being discussed without having to copy all the information that appears on the PowerPoint slides.

Technology: You must have a computer, webcam, microphone, and broadband Internet connection that is compatible with Pearson LockDown Browser and Monitor, which will be used to proctor all exams. You may use a scientific or graphing calculator and/or StatCrunch on all assignments.

Communication: There are two ways to contact me electronically.

1. If you have questions about a specific homework problem, select "Ask My Instructor" from the Question Help menu in MyLab Statistics. I will receive a link to the question showing both your answer and the correct answer, which helps me determine where you may have gone astray.
2. If you have a general question or concern, please send me a Canvas message or an email with "MATH 1680.130" in the subject line. *To protect your privacy, questions about your academic performance must come from your UNT email account.*

Grading Policy: Your course grade will be computed as follows.

- Interactive Assignments 10%
- Homework 10%
- Projects 10%
- Quizzes 10%
- Exams 45%
- Final Exam 15%
- Extra Credit 3%

Attendance: Attendance is encouraged, but not required. You will be responsible for everything covered during class regardless of your attendance. Students who miss class frequently often see their grades suffer as a result, so please plan accordingly.

Interactive Assignments: Instead of a traditional textbook, the course material is contained in interactive assignments that are included with MyLab Statistics. You should fill out the guided notebook as you complete the interactive assignments.

- Interactive assignments completed after the due date (but prior to the exam) will incur a 50% late penalty.
- I will drop the **two** lowest interactive assignment scores before computing your average at the end of the semester. Thus, you do not need to provide me with a doctor's note or other documentation when you are sick or have a family emergency. If a more serious matter arises (e.g., hospitalization), please contact the Dean of Students office so that they may advocate on your behalf.
- Cooperation on interactive assignments and homework (but not quizzes or exams) is encouraged.

Homework:

- Homework questions completed after the due date (but prior to the exam) will incur a 50% late penalty.
- I will drop the **two** lowest homework scores before computing your average at the end of the semester. Thus, you do not need to provide me with a doctor's note or other documentation when you are sick or have a family emergency. If a more serious matter arises (e.g., hospitalization), please contact the Dean of Students office so that they may advocate on your behalf.
- Cooperation on interactive assignments and homework (but not quizzes or exams) is encouraged.

Chapter Summaries: Interactive assignments that summarize the material for each chapter. I encourage you to complete the chapter summary before attempting the quiz.

Chapter Quizzes: A quiz will be due shortly after the last homework assignment in each chapter. The quizzes are designed to help you gauge whether you are prepared to take the upcoming exam.

- Each quiz attempt in limited to 30 minutes.
- You may use a scientific or graphing calculator, StatCrunch, and this formula sheet. No other notes or assistance (e.g., Microsoft Excel) are permitted.

Chapter Reviews: Designed to help you study for the exam by practicing topics that you have not yet mastered. You will be automatically granted credit for topics mastered on your first quiz attempt. *Once you have earned a score of 70% or above on the review, you may retake the quiz to improve your score.*

Projects: There are twelve weekly lab projects. I will drop your lowest project score at the end of the semester.

Exams: *Pearson LockDown Browser and Monitor are required.* You may use a scientific or graphing calculator, StatCrunch, and this formula sheet. No other notes or assistance (e.g., Microsoft Excel) are permitted.

- *No make-up exams will be given.* You may request to take an exam early, provided that I receive the request from your UNT email account at least one week in advance of the day you would like to take the exam.
- The mandatory final exam will be given on **APRIL 26 @ 9:00 am – 11:59 pm**.
- The final exam will be comprehensive in the sense that problems may come from any of the sections covered during the semester.
- Your score on the final exam will replace your lowest exam score, assuming that the score on the final exam is higher, *unless you received a zero on an exam for academic dishonesty* (see below).

Additional Resources: The following technology guides are available in MyLab Statistics:

- Tools for Success > Manuals > Graphing calculator manual for the TI-83/84 Plus and TI-89
- Tools for Success > StatCrunch® > StatCrunch Video Tutorials
- Tools for Success > StatCrunch® > StatCrunch Technology Step-by-Step

The UNT Learning Center provides the following resources to help you succeed in this class.

- Virtual Math Lab: Drop in to get 5–10 minutes of help with a specific question.
- Ask-A-Tutor: A Lead Tutor will respond to your question within one business day.
- One-on-One Tutoring: Schedule an appointment for a one-hour individual tutoring session via Zoom.

COVID-19: Students enrolled in a face-to-face recitation will be expected to wear face coverings and maintain social distancing at all times inside the building. To facilitate taking attendance, each student will be assigned a workstation during the first recitation session that they will use for the entire semester.

Academic Dishonesty: Students caught cheating or plagiarizing will be subject to any penalty the instructor deems appropriate, ranging from receiving 0 (zero) points on that particular assignment to course failure. Additionally, the incident will be reported the Office of Academic Integrity, who may impose further penalty.

According to the UNT catalog, the term "cheating" includes, but is not limited to:

a) use of any unauthorized assistance in taking quizzes, tests, or examinations;
b) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments;
c) the acquisition, without permission, of tests or other academic material belonging to a faculty or staff member of the university;
d) dual submission of a paper of project, or resubmission of a paper or project to a different class without express permission from the instructor(s); or
e) any other act designed to give a student an unfair advantage.

Furthermore, an attempt to circumvent LockDown Browser or Monitor (e.g., obstructing your webcam or microphone) during an exam will automatically be considered cheating.

The term "plagiarism" includes, but is not limited to:

a) the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment; and
b) the knowing or negligent unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.

Acceptable Student Behavior: Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The university's expectations for student conduct apply to all instructional forums, including university and electronic classrooms, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at deanofstudents.unt.edu/conduct.

Access to Information – Eagle Connect: Your access point for business and academic services at UNT occurs at my.unt.edu. All official communication from the university will be delivered to your Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward your e-mail: eagleconnect.unt.edu.

Students with Disabilities: The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the Office of Disability Accommodation website at disability.unt.edu. You may also contact them by phone at (940) 565-4323.

Emergency Notification & Procedures: UNT uses a system called Eagle Alert to quickly notify you with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public

safety emergencies like chemical spills, fires, or violence). The system sends voice messages (and text messages upon permission) to the phones of all active faculty, staff, and students. Please make certain to update your phone numbers at my.unt.edu. Some helpful emergency preparedness action include:

1) know the evacuation routes and severe weather shelter areas in the buildings where your classes are held,
2) determine how you will contact family and friends if phones are temporarily unavailable,
3) identify where you will go if you need to evacuate the Denton area suddenly.

In the event of a university closure, please refer to Blackboard for contingency plans for covering course materials.

Retention of Student Records: Student records pertaining to this course are maintained in a secure location by the instructor of record. All records such as exams, answer sheets (with keys), and written papers submitted during the duration of the course are kept for at least one calendar year after course completion. Course work completed via the Blackboard online system, including grading information and comments, is also stored in a safe electronic environment for one year. You have a right to view your individual record; however, information about your records will not be divulged to other individuals without proper written consent. You are encouraged to review the Public Information Policy and the Family Educational
Rights and Privacy Act (FERPA) laws and the university's policy in accordance with those mandates at the following link: essc.unt.edu/registrar/ferpa.html.

Student Evaluation of Instruction: Student feedback is important and an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. This short survey will be made available at the end of the semester to provide you with an opportunity to evaluate how this course is taught.

Succeed at UNT: UNT endeavors to offer you a high-quality education and to provide a supportive environment to help you learn and grow. As a faculty member, I am committed to helping you be successful as a student. Here's how to succeed at UNT: *Show Up. Find support. Get advised. Be prepared. Get involved. Stay focused.* To learn more about campus resources and information on how you can achieve success, go to success.unt.edu.

Spring 2021 math 1680 MWF_ T lab
Calendar

SUN	M	T LAB	W	TR	F	SAT
1/10	1/11 **CLASSES BEGIN** **Syllabus, MSL,**	**1/12** MLS tour	1/13 **1.1, 1.2**	1/14	1/15 Last day to add/swap a class. Cannot swap up to a higher level class, only down. 1.3, 1.4	1/16 1.1, 1.2 ,1.3
1/17 Syllabus Quiz	1/18 MLK Day	1/19 R2-Designing a Statistical Study	1/20 1.5	1/21	1/22 1.6	1/23 1.4, 1.5,1.6
1/24 Ch1 Quiz	1/25 12th class day (census) 2.1, 2.2	1/26 Beginning this date a student may drop a class with a grade of "W" R3-Organizing Qualitative Data	1/27 2.2, 2.4	1/28	1/29 3.1	1/30 2.1, 2.2, 2.4
1/31 Ch2 Quiz	2/1 3.2, 3.3	2/2 R4-Organizing Quantitative Data	2/3 3.3, 3.4	2/4	2/5 3.5	2/6 3.1-3.5
2/7 Ch3 Quiz	2/8 4.1	2/9 R5-Numerical Summaries	2/10 4.2	2/11	2/12 EXAM 1 REVIEW	2/13
2/14	2/15 EXAM 1(Ch1-Ch3)	2/16 R6-Algebra Review	2/17 4.3	2/18	2/19 4.4 .	2/20 4.1, 4.2, 4.3
2/21	2/22 5.1	2/23 R7-Correlation & Regression	2/24 5.2	2/25	2/26 5.3	2/27 4.4, 5.1, 5.2, 5.3
2/28 Ch4 Quiz	3/1 5.4	3/2 R8-Contingency Tables	3/3 5.5	3/4	3/5 5.7	3/6 5.4, 5.5,5.7

3/7 Ch5 Quiz	3/8 6.1	3/9 R9-Monty Hall + Counting	3/10 6.2	3/11	3/12 6.3	3/13 6.1, 6.2, 6.3
3/14 Ch6 Quiz	3/15 7.1	3/16 R10-Discrete Random Variables	3/17 7.2	3/18	3/19 EXAM 2 REVIEW	3/20
3/21	3/22 EXAM 2(Ch4-Ch6)	3/23 R11-Normal Distribution	3/24 7.3, 8.1	3/25	3/26 8.1, 8.2	3/27 7.1, 7.2, 7.3
3/28 Ch7 Quiz	3/29 9.1	3/30 R12-Sampling Distribution	3/31 9.2	4/1	4/2 Last day to drop with a "W" • NO CLASS	4/3 Beginning this date a student may request a grade of "I" 8.1, 8.2
4/4 Ch8 Quiz	4/5 9.3	4/6 R13-Confidence Intervals	4/7 10.1	4/8	4/9 EXAM 3 REVIEW	4/10 9.1, 9.2, 9.3
4/11 Ch9 Quiz	4/12 EXAM3 (Ch7-Ch9)	4/13 Final Review	4/14 10.2	4/15	4/16 10.2	4/17 10.1, 10.2
4/18	4/19 Final Review	4/20 Final Review	4/21 FINAL REVIEW 10.3,10.4	4/22	4/23 **Reading Day – no class** Ch10 Quiz	4/24
4/25	4/26	4/27	4/28	4/29	4/30	5/1

CHAPTER 1 Data collection

- 1.1 Introduction to the Practice of Statistics
- 1.2 Observational Studies versus Designed Experiments
- 1.3 Simple Random Sampling
- 1.4 Other Effective Sampling Methods
- 1.5 Bias in Sampling
- 1.6 The Design of Experiments

CHAPTER 2 Organizing and Summarizing Data

- 2.1 Organizing Qualitative Data
- 2.2 Organizing Quantitative Data: The Popular Displays
- 2.4 Graphical Misrepresentations of Data

CHAPTER 3 Numerically Summarizing Data

- 3.1 Measures of Central Tendency
- 3.2 Measures of Dispersion
- 3.3 Measures of Central Tendency and Dispersion from Grouped Data
- 3.4 Measures of Position
- 3.5 The Five-Number Summary and Boxplots

CHAPTER 4 Describing the Relation between Two Variables

- 4.1 Scatter Diagrams and Correlation
- 4.2 Least-Squares Regression
- 4.3 Diagnostics on the Least-Squares Regression Line
- 4.4 Contingency Tables and Association

CHAPTER 5 Probability

- 5.1 Probability Rules
- 5.2 The Addition Rule and Complements
- 5.3 Independence and the Multiplication Rule
- 5.4 Conditional Probability and the General Multiplication Rule
- 5.5 Counting Techniques
- 5.7 Putting it Together: Which Method Do I Use?

CHAPTER 6 Discrete Probability Distributions

- 6.1 Discrete Random Variables
- 6.2 The Binomial Probability Distribution

CHAPTER 7 The Normal Probability Distribution

- 7.1 Properties of the Normal Distribution
- 7.2 Applications of the Normal Distribution
- 7.3 Assessing Normality

CHAPTER 8 Sampling Distributions

- 8.1 Distribution of the Sample Mean
- 8.2 Distribution of the Sample Proportion

CHAPTER 9 Estimating the Value of a Parameter

- 9.1 Estimating a Population Proportion