Math 1308 – Elementary Statistics – Section 100

Course Instructor

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Office Hours: MWF 11:00am-12:00pm, Tues 10:25am-12:25pm, or by appointment
Lab Hours: Wed/Fri 9:30am-10:50am and Mon/Wed 2:30pm-3:50pm, in Pickard Hall PKH 308

Mathematics Learning Resource Centers

Email: mathLRC@uta.edu
Computer Lab Website: http://www.uta.edu/math/LRC/
Clinic Website: http://www.uta.edu/math/clinic/
Facebook: https://www.facebook.com/UTA-Learning-Resource-Center-460329394127443/

Math Department Office

Pickard Hall PKH 478
Phone: 817-272-3261

Textbook and Materials

This course is part of the UTA Mathematics Department Affordability Campaign, making state-of-the-art online mathematics resources available to our students at the lowest possible price when compared to purchasing elsewhere. To receive the discounted price, purchase course materials through the UTA Bookstore. Search by course or use this site: http://bit.ly/2tQ090S

1. **E-text and Direct Access (Required)**: Select the link for, "MATH 1308 DDA - Fund of Stats (0812)(CUSTOM)." Your course materials include the e-version of the course text as well as MyLab course access which is designed to enrich student success by providing instant feedback on your assignments plus on-demand access to personalized study plans, a multimedia library, practice tests, and more. The e-texts may be downloaded on multiple devices with long-term access for each student. Every student has trial access to MyLab course materials as soon as the course is available in Blackboard. So you can start working on your course even before you purchase the course materials! That said, students will need a verified purchase within the first two weeks of classes, otherwise, the access to your digital materials will freeze and your account will stay deactivated until the purchase is confirmed. During the purchasing process, please ensure you enter your name as shown on your UTA records along with your MAVS email address for proper processing.
2. **Loose-leaf Textbook (Optional)**: You may choose to upgrade your purchase and add a loose-leaf textbook at minimal cost. The textbook will be shipped directly to an address of your choosing or you may pick one up at the UTA bookstore. Full purchase details will be available in Blackboard. *Fundamentals of Statistics*, 5e, by Michael Sullivan, III, Pearson Ed. Inc., 2018

3. **Web-Enabled Device**: Use your smartphone, tablet, laptop or other device to check-in at lectures for required attendance and to take in-class quizzes and earn Stats Coins toward extra credit.
4. **3"x5" Index Cards:** In the event of a UTA Network disconnection during lecture, index cards may be used as a back-up for the web-enabled device.
5. **Scientific Calculator**: You may use a scientific calculator. See the Calculator Policy section for allowable models.

Calculator Policy

Students may choose to use a scientific, non-graphing calculator on all assignments including unit exams and the final exam. If so, it MUST be one of the following models explicitly:

Texas Instruments 30X series: TI-30Xa, TI-30XIIS, TI-30XIIB, TI-30XS(Multiview)
Casio FX series: FX-300MS, FX-82MS, FX-85MS, FX-260SOLAR, FX-260SOLAR II
Sharp EL series: EL-501X, EL-531X
Canon F series: F-605, F-604, F-730SX, F-710

No variation of model will be accepted. This includes but is not limited to plus and pro models.

Software and System Requirements

Mozilla Firefox and Google Chrome are the recommended and supported browsers for this course. The course also has the following options for system requirements:

- Windows 7.0 or higher
- Mac OS x 10.9 or higher

If working outside the lab, students are encouraged to use the Browser Check in Blackboard in order to check and/or update (free download) various software requirements including:

- Pearson LockDown Browser for Windows version 2.0.3.01 or for a Mac version 2.0.3.02

Course Elements

Scheduled Meeting Times and Locations

Lecture: Mondays 9:30am-10:50am in SEIR 194
Lab: Wednesdays/Fridays 9:30am-10:50am in PKH 308

Attendance Policy

At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator in student success. Each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I have adopted the following attendance policy. Attendance is mandatory and will be assessed at each lecture and lab meeting. The lecture session meets once a week for 1 hour and 20 minutes and the lab session meets 2 days per week, each for 1 hour and 20 minutes in the Math Learning Resource Computer Lab, 308 PKH. Students are expected to attend class/lab, be attentive, and participate in discussions/activities. However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients "begin attendance in a course." UT Arlington instructors will report

when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Blackboard. This date is reported to the Department of Education for federal financial aid recipients.

- Upon entry into the lab, you will be required to log into an attendance tracking system using your MavID card. You will also be required to sign out when leaving the lab.
- Over the course of the semester, **in addition to lecture attendance**, **you are required to complete 30 hours of lab attendance/study time within the Math Computer Lab**. Lab hours must be completed throughout the course of the semester.

Lab Hours Requirement	At least 30 hours	Worth 50% of Attendance
Lecture Attendance Requirement	At least 12 Lectures	Worth 50% of Attendance
TOTAL ATTENDANCE REQUIREMENT		**Possible 100% for Attendance**

- The attendance requirement is 5% of your overall course grade. By semester's end, your attendance grade will be 0, 50, or 100, depending upon your lab and lecture attendance.
- You are solely responsible for your own attendance. If you miss a lab time, you will be allowed to make-up your time during open lab hours over the course of the semester. You will be provided with a lab schedule and information on how to check and keep up with your own hours.

Schedule of Lessons and Exams

You must complete all assignments and exams by the due dates. Due dates are listed in the Course Schedule located in blackboard. **All deadline times are in Central Time**.

Grade Calculation

Assignments and Course Requirements	Percent of Grade
Attendance	5%
Homework	10%
Quizzes	10%
Unit Exams (Average of 4 Exams)	50%
Signature Statistics Inquiry Project	5%
Comprehensive Final Exam	20%
Total:	**100%**

- In the event you are not satisfied with one of the Unit Exam 1, 2 or 3 scores, you may earn a "retake" by redeeming Stats Coins. Only ONE retake on the exam of your choosing will be granted. The Readiness Exam is not eligible for a retake. Please reference the Course Schedule for specific retake dates. You MUST solicit and receive approval from your instructor prior to redeeming your Stats Coins and taking your ONE retake exam. All retakes must be complete prior to the final exam. See the Extra Credit section for more details.

Grading Scale

Grades will be computed based on the following distribution. Grades are rounded up accordingly.

90 — 100%	A
80 — 89%	B
70 — 79%	C
60 — 69%	D
Below 60%	F

Readiness Exam and Assignments (Unit R)

All readiness assignments, assigned within Blackboard in MyLab Statistics, are available to you prior to the first class day. The automated system will provide feedback on assignments immediately upon submission.

- This course is designed to assist students with prerequisite material as the course progresses. Therefore, one of your first assignments is a 30-question Readiness Pre-test. This test does not count toward your overall average, but will determine the amount of readiness work you need to complete. Therefore it is advised to take this 30-question Pre-test seriously. Upon completion of the Readiness Pretest you will have readiness work to complete to prepare you for the Readiness Exam.
- A Lockdown program for your browser is required for the Readiness Pretest. Be sure that you either complete this exam in the Math Computer Lab (PKH 308), or that you have administrative rights to the computer you are using in order to install this program. The program is a free download and easily installed through the Browser Check link provided in the Software Requirements tab in Blackboard. Tests cannot be opened, saved, and returned to at a later time.
- The readiness work assignments do not count toward your homework average. These assignments are personalized based on your Readiness Pre-test performance and are optional. Time spent on these assignments will assist you with the foundational material for this course as well as help you prepare for the Readiness Exam. Readiness assignments are set for unlimited access up until the due date and unlimited attempts per question. Completion of these assignments will earn Stats Coins redeemable for extra credit options. See Extra Credit section.
- All readiness work assignments contain learning aids to help you through the material. Be careful not to become overly dependent on these aids or you may not perform well on the exam. You have multiple chances at each question and to gain access to the next attempt once a question is marked wrong, simply select the “similar exercise” button at the bottom of the assignment screen.
- Once your personalized readiness work is complete, you will take the Readiness Exam found within MyLab Statistics. The Readiness Exam covers sections 1.1-1.4, 2.1, 3.1 and 5.1. The Readiness Exam is comprised of 20 questions that must be completed within 75 consecutive minutes. The Readiness Exam must be taken during the Readiness Exam window (see Course Schedule) on a first come, first serve basis in PKH 308. Tests cannot be opened, saved, and returned to at a later time. Exact dates and times of testing availability will be posted in Blackboard and on the Learning Resource Center website.
- You must have your MavID with you for the exam and will be required to sign in/out upon entering and exiting the lab. You may not leave the room during an exam.
- You may use an approved calculator (see list of approved calculators in Materials section), one 3”x5” index card of notes front and back, and blank scratch paper which will be provided. No additional materials are allowed.

- Use of any unauthorized electronic devices or notes during an exam will result in a grade of ZERO.
- Partial credit forms will be available for the Readiness Exam. At some point after the due date you will be allowed to review your answers and fill out a partial credit form. You may request partial credit on up to 3 questions, where you feel your work was partially correct, by turning the form into your instructor or a lab assistant in the Computer Lab. You cannot earn credit for any problems not originally attempted and answered during the exam. See Blackboard for forms and additional details.
- If you have trouble completing the assignments, please seek some form of tutoring and/or see your instructor for assistance.

Homework and Quizzes

All homework and quizzes will be assigned within Blackboard in MyLab Statistics. All homework and quiz assignments are available to you on the first class day. The automated system will provide feedback on assignments immediately upon submission.

- **NO late homework or quizzes will be accepted,** so watch the due dates on the calendar. You will receive a zero for any assignments not submitted.
- There is a homework assignment covering each section of material, a syllabus quiz, and 6 content quizzes. Homework assignments starting with section 1.5, which are *not* designated as "Readiness" work, are set for unlimited access up until the due date. You may complete homework assignments a question at a time and you have 3 attempts per question. You will have two attempts at each of the quizzes, which have a 50-minute time limit and must be completed in their entirety once opened. Quizzes cannot be saved and resumed later.
- All homework assignments contain some learning aids to help you through the material. Be careful not to become overly dependent on these aids or you may not perform well on the exams. You have multiple chances at a question per attempt. To gain access to the next attempt once a question is marked wrong, simply select the "similar exercise" button at the bottom of the homework screen. Quizzes are designed to check your knowledge retention and therefore do not contain the learning aids except in review mode once the quiz has been submitted.
- A Lockdown program for your browser is required for all quizzes. Be sure that you either complete your quizzes in the Math Computer Lab or that you have administrative rights to the computer you are using in order to install this program. The program is a free download and easily installed through the Browser Check.
- If you have trouble completing the assignments, please seek some form of tutoring and/or see your instructor for assistance.

Unit Exams

There will be four computerized proctored unit exams, which includes the Readiness Exam, throughout the course of the semester. (Please reference the course schedule for exact dates.)

- All unit exams are found within Blackboard in MyLab Statistics. The Readiness Exam is comprised of 20 questions that must be completed within 75 consecutive minutes. Exams 1, 2, and 3 are comprised of 15 multiple choice and short answer questions plus one paragraph style response that all must be completed within 75 consecutive minutes. Exams cannot be opened, saved, and returned to at a later time.

- You may use an approved calculator (see list of approved calculators in Materials section), approved formula pages, one 3"x5" index card of notes front and back, and blank scratch paper which will be provided. No additional materials are allowed.
- The approved formula sheets are located in the back of your textbook in a foldout chart. These formula pages will also be posted to Blackboard. A copy will be supplied in the lab during your exam.
- The Readiness Exam must be taken during the Readiness Exam window (see Course Schedule) in the Math Computer Lab (PKH 308). Exams 1, 2 and 3 must be taken during your regularly scheduled lab time as stated in the Course Schedule in the Math Computer Lab (PKH 308) during your regularly scheduled lab time. You must have your MavID with you on exam day and will be required to sign in/out upon entering and exiting the lab.
- You may not leave the room during an exam.
- Partial credit forms will be available for all four unit exams. At a designated time after each exam, you will be allowed to review your answers. At that time, you may fill out a partial credit form and request partial credit on up to 3 questions by turning the form into your instructor or a lab assistant in the Computer Lab. You cannot earn credit for any problems not originally attempted and answered during the exam. See Blackboard for forms and additional details.
- Partial credit is not available on a retake of a unit exam.
- Use of any unauthorized electronic devices or notes during an exam will result in a grade of ZERO.

Final Exam

The final exam is a comprehensive, proctored exam containing material from all sections covered over the course of the semester. (Please reference the course schedule for exact dates.)

- The final is found within Blackboard in MyLab Statistics and is comprised of 30 questions that must be completed within 140 consecutive minutes. The final cannot be opened, saved, and returned to at a later time.
- You may use an approved calculator (see list of approved calculators in Materials section), approved formula pages, two 3"x5" index cards of notes front and back, and blank scratch paper which will be provided. No additional materials are allowed.
- The approved formula sheets are located in the back of your textbook in a foldout chart. These formulas pages will also be posted to Blackboard. A copy will be supplied in the lab during your exam.
- The final exam will be taken in the Math Computer Lab (PKH 308) on the UTA campus. Final exam dates will be added to the course schedule and announced at least one week prior to final exam week. You must have your MavID with you on exam day and will be required to sign in/out upon entering and exiting the lab.
- You may not leave the room during an exam.
- There is no partial credit for the final exam.
- Use of any unauthorized electronic devices or notes during an exam will result in a grade of ZERO.

Signature Statistics Inquiry Project

The Statistics Inquiry Project is worth 5% of your overall course grade. The purpose of the Statistics Inquiry Project is to deepen the following skills:

- Critical Thinking Skills - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
- Communication Skills - to include effective development, interpretation and expression of ideas through written, oral and visual communication.
- Empirical and Quantitative Skills - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

The Statistics Inquiry Project will consist of thorough description and interpretive analysis of a data set. You may obtain data provided by your instructor or collect your own data to analyze. Extra credit is available for those who collect their own data. Detailed requirements and expectations will be provided within Blackboard. See the Course Schedule for due dates.

Extra Credit: Stats Coins

You can earn Stats Coins throughout the semester that you can use for extra credit in a variety of ways at the end of the semester. Instructions for redeeming the Stats Coins will be provided toward the end of the semester and extra credit will be applied at the end of the semester. Coins can only be earned or redeemed in integer values.

Ways to Earn Stats Coins

1.	Participating in a Breakout Session during lab	3 coins per session
2.	Earning 100% on a Readiness Work Assignment	5 coins per assignment
3.	Correctly answering lecture quiz questions (max 3/week)	1 coin per question
4.	Earning > 30 hours in the lab (max 30 extra hours)	1 coin per hour
5.	Earning ≥ 70% on any unit exam	15 coins per exam
6.	Earning ≥ 60% but < 70% on any unit exam	10 coins per exam
7.	Earning ≥ 85% Homework average	25 coins
8.	Earning ≥ 90% on a Technology Assignment	10 coins per assignment
9.	Early submission of Signature Statistics Inquiry Project	10 coins

Ways to Redeem Stats Coins – Extra Credit Options

1.	Replace Final Exam by the average of the 4 unit exams (if higher)	75 coins
2.	Retake ONE of Exams 1, 2 or 3 (Readiness Exam *not* eligible)	25 coins
3.	Bonus points on any unit exam (max 5 points per exam)	3 coins per point
4.	Replace required hours in the lab	5 coins per hour
5.	Replace lecture attendance	15 coins per day
6.	Replace a Homework grade with 100 % (max 5 assignments)	3 coins
7.	Replace a Quiz grade with 100% (max 2 quizzes)	10 coins

* NOTE: See the Course Schedule in Blackboard for the deadline to earn Stats Coins. Redemption of coins cannot result in earning more coins.

Technology Assignments

This course contains three related concept homework assignments which address seven of the nine learning objectives listed in the objective section of your syllabus. These assignments will reinforce work done by hand using technology and will earn Stats Coins. Completion of these homework assignments is optional.

Lecture Quizzes

Stats Coins may be earned by correctly answering lecture quizzes given during lecture meetings or instructional times during a lab session. Lecture quizzes will be based primarily on topics over which students are expected to prepare beforehand by viewing the Unit video lessons in Blackboard tabs. Students will answer lecture quizzes via web-enabled device or on rare occasions the 3"x5" index cards. **You must be present for the entire lecture to be eligible for that day's lecture quiz Stats Coins.**

Makeup Policy

In addition to the policy that NO late homework or quizzes will be accepted (see Homework and Quizzes), **there are no make-up exams**. If you know ahead of time that you are going to miss class for a legitimate reason, it is your responsibility to inform your instructor and make the necessary arrangements. If you have a conflict with a scheduled exam due to a school sponsored or excused event, you MUST have documentation and you MUST arrange to take the exam BEFORE you leave. To request an alternate exam date because of an approved conflict, please fill out the Alternate Exam Date Request Form which can be found in Blackboard. You must either submit the forms directly to me during class or office hours or email the form along with the necessary documentation *at least two weeks prior to the first exam*. A request for a rescheduled exam will only be considered in rare, documentable, and verifiable instances. The decision to grant an alternate exam date will be at the sole discretion of the instructor and/or course coordinator.

Strategies and Lab Rules

The primary methods for course content delivery will be lecture and lab work.

- The first 15 minutes of lab time will be dedicated to class instructional time and concept activities as needed. The remaining time will consist of Break-out sessions, group work, and/or individual instructional time. Break-out sessions during lab time will address Readiness Topics as well as critical course material. A schedule for the Break-out sessions with topics will be provided.
- Additional content material and notes can be found in the Unit tabs within Blackboard and in the MyLab Statistics links to the multimedia library and eText. The course is separated into 4 units of material which will correspond to the 4 unit exams. Within each unit there are blocks with specific details and assignment requirements. Preparation and all graded assignments will take place within Blackboard.
- Lab participation is required and you are only allowed to work on MATH 1308 material while in the lab. Any violation of this rule will result in a student being asked to leave the lab and an absence will be recorded for that day. The lab time will give you an opportunity to obtain one on one tutoring and guidance for your homework and quizzes.
- Mobile phones and laptops are not allowed in the lab. Students must work on the designated computers within the Math Computer Lab.
- Students may continue to work through their homework and quiz assignments outside of the lab time since Blackboard is accessible from any source with an internet connection. Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at

least an additional 9 hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

- Students must login and have their MyMav ID upon entering and exiting the lab.
- No food or drinks are allowed in the lab.

Announcements: Found in *Blackboard*.

- Students are responsible for all information found in these announcements.
- Students should check for new announcements at least twice a week.

Help for Students

- Face to Face Tutoring through the UTA Math Learning Resource Center. Free daily tutoring is offered in the Math Computer Lab – Pickard Hall (PKH) room 308 http://www.uta.edu/math/LRC/ and the Math Clinic – Pickard Hall (PKH) room 325 http://www.uta.edu/math/clinic/
- IDEAS Center offers on-campus and online tutoring for transfer students, veterans, sophomores, and students re-entering school after a break http://www.uta.edu/ideas/
- University Tutoring Service http://www.uta.edu/universitycollege/current/academic-support/learning-center/tutoring/index.php Ransom Hall Suite 205.
- Maverick Resource Hotline (817-272-6107). https://www.uta.edu/universitycollege/resources/resource-hotline.php
- Counseling and Psychological Services (CAPS) https://www.uta.edu/caps/
- Additional Online Course Help: https://www.khanacademy.org/

Course Objectives

Course Catalog Description

Topics may include collection, analysis, presentation, and interpretation of data. Analysis includes descriptive statistics, probability, relationships between variables and graphs, elementary statistical models, hypothesis testing, inference, estimation, correlation, regression and confidence intervals. The use of mathematical software and calculators is required.

Learning Objectives and Outcomes

After completing the course, students should be able to demonstrate the following competencies:

1.0 Use statistical vocabulary and explain the use of data collection and statistics as tools to reach reasonable conclusions.
2.0 Recognize, examine, and interpret the basic principles of describing and presenting data, using tools such as frequency distributions and various graphs.
3.0 Compute, compare, and interpret summary data descriptions.
4.0 Solve linear correlation and regression problems.
5.0 Compute and interpret empirical and theoretical probabilities using counting techniques and probability theory.
6.0 Explain the role of probability in statistics for both discrete and continuous random variables.
7.0 Examine, analyze, and compare various sampling distributions for both discrete and continuous random variables, including the normal distribution.
8.0 Describe and compute confidence intervals.
9.0 Perform hypothesis testing using statistical methods and interpret the results.

Course Competencies

1.0 To demonstrate competency in statistical vocabulary, the student should be able to:
- 1.1 Use the proper terms to be able to communicate statistical ideas.
- 1.2 Determine the difference between descriptive statistics and inferential statistics.
- 1.3 Demonstrate an ability to understand the statistical terms that are commonly used in textbooks, newspapers, magazines, and on television and radio in society today.

2.0 To demonstrate competency in frequency distributions and graphs, the student should be able to:
- 2.1 Organize a frequency distribution.
- 2.2 Draw histograms, frequency polygons, and gives to illustrate data in frequency distributions.
- 2.3 Interpret and draw other commonly used graphs including time series graphs, Pareto charts, pie graphs, and stem and leaf plots.

3.0 To demonstrate competency in data description, the student should be able to:
- 3.1 Calculate and interpret common measures of central tendency such as mean, median, mode, and mid-range using both grouped and ungrouped data.
- 3.2 Calculate a weighted mean.
- 3.3 Calculate and interpret common measures of variability such as range, standard deviation, and variance for both grouped and ungrouped data.
- 3.4 Calculate z-scores (standard scores), percentile ranks, and quartiles to determine the relative positions of raw scores in a data set.
- 3.5 Apply Chebyshev's Theorem to data sets in order to calculate expected proportion of outcomes in given intervals.
- 3.6 Read and interpret percentile graphs.
- 3.7 Calculate inter-quartile range and quartiles for data sets.
- 3.8 Determine outliers for a set of data.
- 3.9 Draw box plots for data sets.

4.0 To demonstrate competency in the concepts of correlation and regression, the student should be able to:
- 4.1 Draw a scatter plot for a set of ordered pairs.
- 4.2 Find the Pearson Product Moment correlation coefficient.
- 4.3 Perform a hypothesis test to see if there is any significant positive or negative correlation.
- 4.4 Find the equation of the regression line.
- 4.5 Make predictions when an appropriate correlation exists.

5.0 To demonstrate competency in elementary probability theory and the use of counting rules to find probabilities, the student should be able to:
- 5.1 Calculate probabilities by using sample spaces.
- 5.2 Determine the complement of an event and to calculate the corresponding probability.
- 5.3 Recognize the difference between classical, empirical, and subjective probability.
- 5.4 Calculate probability using the addition rules.
- 5.5 Recognize mutually exclusive events in order to correctly calculate the corresponding probabilities.
- 5.6 Find the probability of two or more independent events.
- 5.7 Find the probability of two or more dependent events.
- 5.8 Apply the formula for conditional probability.
- 5.9 Calculate probabilities using terms such as "and," "or," and "at least one."
- 5.10 Use tree diagrams as a counting technique.
- 5.11 Calculate with counting techniques using multiplication rules.
- 5.12 Recognize permutations and to count outcomes using permutation formulas.
- 5.13 Recognize combinations and to count outcomes using combination formulas.

6.0 To demonstrate competency in discrete probability distributions, the student should be able to:
- 6.1 Construct a probability distribution for a random variable.
- 6.2 Determine the mean, variance, standard deviation, and the expected value for a discrete random variable.
- 6.3 Find the exact probability for x successes in n trials for a binomial experiment.

7.0 To demonstrate competency in the Normal Distribution, the student should be able to:
- 7.1 Identify distributions as symmetrical or skewed.
- 7.2 Identify the properties of the Normal Distribution.
- 7.3 Find the area under the Standard Normal Distribution given various z values.
- 7.4 Find probabilities for a normally distributed variable by transforming it into a standard normal variable.
- 7.5 Find specific data values for given percentages using the Standard Normal Distribution.

7.6 Use the Central Limit Theorem to solve problems involving sample means for large and small samples

8.0 To demonstrate competency in confidence intervals, the student should be able to:
- 8.1 Find the confidence interval for the sample mean.
- 8.2 Estimate the confidence interval for the population mean.
- 8.3 Find confidence intervals and sample size for proportions.

9.0 To demonstrate competency in hypothesis testing, the student should be able to:
- 9.1 Understand the definitions used in hypothesis testing.
- 9.2 State the null and alternative hypotheses.
- 9.3 Find critical values for the z value.
- 9.4 State the five steps used in hypothesis testing.
- 9.5 Test means using the z test (introduce P-value method).
- 9.6 Test means using the t test.
- 9.7 Test proportions using the z test.
- 9.8 Explain the relationship between type I and type II errors.

Course Policies

Drop Policy

If you withdraw from the course for any reason, you must follow University procedures. It is your responsibility to execute these procedures correctly and within the deadlines. **Instructors are unable to drop students**, but we strongly recommend that visit with your instructor before you decide to drop the course. Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/aao/fao).

Disabilities Accommodations

UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA),* and *Section 504 of the Rehabilitation Act.* All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of **a letter certified** by the Office for Students with Disabilities (OSD). Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting: **The Office for Students with Disabilities, (OSD)** www.uta.edu/disability or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability.

Counseling and Psychological Services (CAPS)

CAPS (www.uta.edu/caps/ or calling 817-272-3671) is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

Grade Grievances

Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current University Catalog. For undergraduate courses including this one, see http://catalog.uta.edu/academicregulations/grades/#undergraduatetext.

Non-Discrimination Policy

The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos.

Title IX

The University of Texas at Arlington ("University") is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. *For information regarding Title IX, visit* www.uta.edu/titleIX or contact Ms. Michelle Willbanks, Title IX Coordinator at (817) 272-4585 or titleix@uta.edu.

Academic Integrity

It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. This course includes a zero tolerance policy for academic dishonesty and students are expected to adhere to the UT Arlington Honor Code:

> *I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence. I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code in their courses by having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System Regents' Rule 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University. Additional information is available at https://www.uta.edu/conduct/.
Students found guilty of cheating may receive a grade of "F" for the course.

> *"Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking*

an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts." (Regents' Rules and Regulations, Series 50101, Section 2.2)

Faculty are encouraged to discuss plagiarism and share the following library tutorials http://libguides.uta.edu/copyright/plagiarism and http://library.uta.edu/plagiarism/

Student Support Services

UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at http://www.uta.edu/universitycollege/resources/index.php.

University Tutorial & Supplemental Instruction (Ransom Hall 205): UTSI offers a variety of academic support services for undergraduate students, including: 60 minute one-on-one tutoring sessions, Start Strong Freshman tutoring program, and Supplemental Instruction. Office hours are Monday-Friday 8:00am-5:00pm. For more information visit www.uta.edu/utsi or call 817-272-2617.

The Library's 2nd floor Academic Plaza offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library's hours of operation. http://library.uta.edu/academic-plaza.

The IDEAS Center (2nd Floor of Central Library) offers free tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. To schedule an appointment with a peer tutor or mentor email IDEAS@uta.edu or call (817) 272-6593.

The English Writing Center (411LIBR): The Writing Center offers FREE tutoring in 15-, 30-, 45-, and 60-minute face-to-face and online sessions to all UTA students on any phase of their UTA coursework. Register and make appointments online at https://uta.mywconline.com. Classroom visits, workshops, and specialized services for graduate students and faculty are also available. Please see www.uta.edu/owl for detailed information on all our programs and services.

Electronic Communication

UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at http://www.uta.edu/oit/cs/email/mavmail.php.

Campus Carry

Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit http://www.uta.edu/news/info/campus-carry/

Student Feedback Survey

At the end of each term, students enrolled in face-to-face and online classes categorized as "lecture," "seminar," or "laboratory" are directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback via the SFS database is aggregated with that of other students enrolled in the course. Students' anonymity will be protected to the extent that the law allows. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law and aggregate results are posted online. Data from SFS is also used for faculty and program evaluations. For more information, visit http://www.uta.edu/sfs.

Final Review Week

For semester-long courses**,** a period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures

Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. If we experience an emergency event that requires us to vacate the Math Computer Lab in PKH 308, proceed to one of the three corners of the PKH building and use the stairwell. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Emergency Phone Numbers

In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911. We further recommend that you enter the UTA Police Department's emergency phone number into your own mobile phone. For non-emergencies, contact the UTA PD at 817-272-3381.

Student Intellectual Property Rights Statement

A student shall retain all rights to work created as part of instruction or using university technology resources.