

**Tarleton State University
Department of Mathematics**

**Elementary Statistical Methods
MATH 1342-040
(CRN 12347)
Spring 2019**

Class Meeting Times:

0305pm-0420pm, Math 333

Instructor: Dr. John Gresham

Phone: 254.968.1954

Dept. Office: 254-968-9168

Office Hours: MW 1-2, F 11-12

T TH 9:30-10:30

- Other times by appointment

Office: Math 235C

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Catalog Description: Elementary Statistical Methods (3-0)

Data collection and analysis, elementary probability, discrete and continuous distributions, regression, correlation, estimation, and nonparametric methods. Credit cannot be awarded for both MATH 1342 and MATH 3450.

Course Prerequisites:

Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

Student Learning Outcomes:

At the conclusion of the course, the student will be able to:

- Demonstrate understanding of data organization by constructing appropriate graphical representations of data sets and by calculating measures of central tendency and variability for data sets.
- Demonstrate understanding of discrete probability by calculating probabilities (including conditional probabilities), expected values, and variances using axioms, counting techniques, and specific distributions.
- Demonstrate understanding of continuous probability by calculating probabilities involving the normal distribution and the central limit theorem.
- Demonstrate understanding of statistical decision making by finding confidence intervals for population means and population proportions
- Demonstrate understanding of statistical decision making by performing hypothesis tests involving population means and population proportions.

Textbook and Materials:

Statistics, 13th edition, by McClave & Sincich

Calculator with stats capabilities (TI-84 Plus is the calculator of choice)

MyStatLab code through www.pearsonmylabandmastering.com

Grading System:	4 Tests	60%
	Daily Grade	20%
	Final Exam	20%

Grading Scale:	90-100	A
	80-89	B
	70-79	C
	60-69	D
	0-59	F

Note:

Tarleton differentiates between a failed grade in a class because a student never attended (F0 grade), stopped attending at some point in the semester (FX grade), or because the student did not pass the course (F) but attended the entire semester. These grades will be noted on the official transcript. Stopping or never attending class is considered an unofficial withdrawal and can result in the student having to return aid monies received. For more information, see the Tarleton Financial Aid website.

Major Tests:

We will have 4 major tests during the semester. All tests will be departmental. No make-up tests will be given. Your instructor will notify you of your test score, but your test will not be returned for you to keep. You are welcome to come view your test in your instructor's office during office hours or at another designated time.

Daily Grade:

Daily grade scores are taken from two sources: (1) scores for online homework assignments, and (2) scores on short in-class quizzes over selected exercises. A few of these scores will be dropped at the end of the semester.

Final Exam:

The final exam will be a comprehensive departmental exam. See the calendar below for the time. Your one lowest regular test score will be replaced with the final exam score, if the final exam score is higher.

Extra Credit:

No extra credit or bonus points will be given in the course, and test scores will not be curved. Students are expected to complete regular assignments and tests to the best of their ability. Grades will be assigned as a result of that work and effort and not changed by exterior work.

University Policy:

Students are responsible for knowing and abiding by the policies and information contained in the Tarleton Student Handbook.

Academic Conduct:

Any student guilty of academic dishonesty, cheating, or plagiarism in academic work shall be subject to disciplinary action. [TSUSH] The instructor may initiate disciplinary action in any case of academic misconduct.

Student Responsibilities:

The student is *solely* responsible for:

- Completing each assignment by the specified due date.
- Obtaining assignments and other materials for classes from which they are absent.
- Utilizing, as needed, all available study-aid options (including meeting with the instructor, referring to outside texts, etc.) to resolve any questions that they might have regarding homework, course material, and/or projects.
- Giving as much of an effort as it takes to pass this course.

Services for Students with Disabilities:

It is the policy of Tarleton State University to comply with the Americans with Disabilities Act and other applicable laws. If you are a student with a disability seeking accommodations for this course, please contact the Center for Access and Academic Testing, at 254.968.9400 or caat@tarleton.edu. The office is located in Math 201. More information can be found at www.tarleton.edu/caat or in the University Catalog, or at www.ada.gov.

Student Safety and Title IX:

You are in college to achieve academic success, but you must feel safe and take care of yourself to reach your full potential. You have the right to pursue your education in a safe environment. Title IX makes it clear that violence and harassment based on sex and gender are civil rights offenses subject to accountability. *If you or someone you know has been harassed or assaulted, there is help and support on campus.* You may seek assistance confidentially through the Student Counseling Center or the Student Health Center. You may also make a report to the campus Title IX coordinator, which may trigger a university investigation (not a criminal investigation). Additionally, you may pursue criminal charges through the university police department. If the assault occurred away from campus, UPD can assist you in connecting with the appropriate law enforcement agency.

Student Counseling Center: 254-968-9044 (phone is answered 24 hours a day, 7 days a week), TSC 212

Student Health Services: 254-968-9271, TSC 212

Title IX Coordinator: 254-968-9754, Admin Annex 1, Room 112

University Police Department: 254-968-9002, located on the corner of Harbin and Frey

Absence Policy:

Regular and punctual class attendance is expected of all students. If excessive absences prevent satisfactory progress, a recommendation for withdrawal from the course may be made.

Absences resulting from a Tarleton sponsored activity require written explanation for the absence, in advance, from the faculty/staff member who is responsible for the activity. Excused absences (such as participation in University-sponsored activities) will not be considered after work/tests have been graded.

Makeup Policy:

Each course instructor has the responsibility and authority to determine if make-up work can be done because of absences. Students may request make-up considerations for valid and verifiable reasons such as the following:

- Serious Illness/hospitalization
- Death in the immediate family
- Legal proceedings
- Participation in sponsored University activities (It is the responsibility of students who participate in University-sponsored activities to obtain a written explanation for their absence from the faculty/staff member who is responsible for the activity.)

In the event that you are absent other than for reasons outlined above, you will receive a grade of 0. The final exam score may replace **one** low major exam grade, provided that the score on the final is better than the low or missed exam.

Calculator Policy:

Each student will be required to have an approved graphing calculator available for use. The TI-84 Plus is the recommended choice, but other TI models (TI-82, TI-83, TI-83+, TI-nSpire, etc.) or other brands are acceptable. Teachers will use primarily the TI-84 Plus in the classroom. Students using other brands are responsible for learning how to operate their calculators. The instructor reserves the right to prohibit the use of calculators on certain assignments or tests. A limited number of calculators are available for rent for \$30 per semester. Students should see the main department office (MATH 142) for more information.

Cell phone, Electronic Device policy:

Cell phones and other electronic devices will not be allowed during tests.

Students are expected to set their cell phone so as to emit no audible noise in the classroom. Except for emergency situations, cell phone use (including texting) during the class period is prohibited. A student who is noticeably (to the instructor) distracted by his/her cell phone and/or distracting others with it may be asked to immediately disable it or to leave the classroom. To compensate for your electronic deprivation, keep your calculator on.

Tarleton State University Core Values:

Integrity, Leadership, Tradition, Civility, Excellence, Service

Academic Integrity Statement:

Tarleton State University's core values are integrity, leadership, tradition, civility, excellence, and service. Central to these values is integrity, which is maintaining a high standard of personal and scholarly conduct. Academic integrity represents the choice to uphold ethical responsibility for one's learning within the academic community, regardless of audience or situation.

Academic Honesty Statement:

Tarleton State University expects its students to maintain high standards of personal and scholarly conduct. Students guilty of academic dishonesty are subject to disciplinary action. Academic dishonesty includes, but is not limited to, cheating on an examination or other academic work, plagiarism, collusion, and the abuse of resource materials. The faculty member is responsible for initiating action for each case of academic dishonesty that occurs in his or her class.

Academic Civility Statement:

Students are expected to interact with professors and peers in a respectful manner that enhances the learning environment. Professors may require a student who deviates from this expectation to leave the face-to-face (or virtual) classroom learning environment for that particular class session (and potentially subsequent class sessions) for a specific amount of time. In addition, the professor might consider the university disciplinary process (for Academic Affairs/Student Life) for egregious or continued disruptive behavior.

Academic Excellence Statement:

Tarleton holds high expectations for students to assume responsibility for their own individual learning. Students are also expected to achieve academic excellence by:

- honoring Tarleton's core values.
- upholding high standards of habit and behavior.
- maintaining excellence through class attendance and punctuality.
- preparing for active participation in all learning experiences.
- putting forth their best individual effort.
- continually improving as independent learners.
- engaging in extracurricular opportunities that encourage personal and academic growth.
- reflecting critically upon feedback and applying these lessons to meet future challenges.
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Notes:

- In the event that the university is closed for a scheduled class time, whatever was scheduled for that day and/or whatever was due that day will be scheduled and/or due on the next scheduled class time.
- You are expected to present a TSU ID upon request.
- All items contained in this syllabus are subject to change as the semester progresses. Students will be notified in advance of any change.
- In support of Tarleton's core value of service, each student is expected to participate in a service learning experience as a part of the Spring term week of service. This experience will challenge students to be engaged in the local community, address a community need, connect course objectives to the world around you, and involved structured student reflection. In this service learning experience, you will not only enhance your knowledge and skills, but actively use those skills as you serve your community. Tarleton's Day of service is set for **Thursday, March 21**. There are no scheduled classes on this day from 7 a.m. to 5 p.m. to allow you to participate in a service opportunity.

Spring 2019 Tentative Calendar (Tuesday/Thursday classes)

Topics for Week	Tuesday	Thursday
Chapter 2 Data organization, frequency distribution, histograms, pie graphs, measures of central tendency, measures of dispersion, identifying outliers, modified box-plot	1/15 2.1 and 2.2	1/17 2.3 and 2.4
	1/22 2.5 and 2.6	1/24 2.7 and 2.8
	1/29 4.1 and 4.2	1/31 Extra Day
Chapters 4 & 5 Random variables, expected value, variance of random variable, continuous variable, standardization and the normal distribution, probability	2/5 Test # 1 (Chapter 2)	2/7 4.3
	2/12 4.4	2/14 5.1 and 5.2
	2/19 5.3	2/21 5.4
	2/26 Extra Day	2/28 Test # 2 (Chapters 4 and 5)
Chapter 7 Central limit theorem, confidence intervals for the mean and for proportions, sample size determination	3/5 7.1 and 7.2	3/7 7.2 and 7.3
	3/12 Spring Break	3/14 Spring Break
	3/19 7.4	3/21 Service Day – no classes!
	3/26 7.5	3/28 Extra Day
Chapter 8 Hypothesis testing, z-test, t-test, hypothesis test of proportion Chapter 11 Association, linear regression, correlation	4/2 Test # 3 (Chapter 7)	4/4 8.1 and 8.2
	4/9 8.3	4/11 8.4 and 8.5
	4/16 8.5 and 8.6	4/18 Extra Day

Topics for Week	Tuesday	Thursday
	4/23 Test # 4 (Chapter 8)	4/25 11.2
	4/30 Last Day of Class! 11.2	Final Exam time TBA

- Test 1 – over Chapter 2
- Test 2 – over Chapters 4 & 5
- Test 3 – over Chapter 7
- Test 4 – over Chapter 8
- Comprehensive Final Exam: chapters 2, 4-8, plus 11.2. Time of Final TBA