

Texas A&M University – Texarkana



MATH 1342: Elementary Statistical Methods, Section 002
Course Syllabus, Spring 2021

Instructor: Dr. Ram Neupane
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Email: ram.neupane@tamut.edu
Meeting time & Classroom: TR 1:00pm – 2:15pm, UC 243
Office Hours: Tue. 9 - 11am & Thurs. 10 - 11am, or by Appointment
Credit Hours: 3 SCH

Catalog Description: This course provides a rigorous study of the concepts and applications of the collection, analysis, presentation, and interpretation of data and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Appropriate computer software and hand held technologies will be utilized.

Prerequisites: Students must satisfy the math portion of TSI (Texas Success Initiative).

Required Materials: MyMathLab Access Code (this will provide you access to the assignments as well as the e-textbook) MyMathLab **Course ID: neupane27969**
Students must have access to a computer with an internet connection for course work.

Required Other Materials: TI-83 Plus or above, Graphing Calculator (calculators are available for student check out in the University Library on a first come first served basis.)

Optional: Hard copy text: Elementary Statistics, Mario F. Triola, 13th edition, Pearson.
ISBN: 978-0-13-4462455

Course Delivery Method: This will be a face-to-face course with the following key elements:

- Student-centered instruction
- Experiential Learning
- Student engagement, input, and feedback
- Small peer group/partner activities
- Q&A's for homework problems and concept clarification
- Problem-solving strategies

How to be successful in this course:

- Attend every class period, stay for the entire class and study in the regular basis. If you missed some class for some reason, catch up the material as soon as possible.
- Submit each assignment by the assigned due date.
- Ask questions right away in class if you do not understand some mathematical and statistical concepts.
- Use all possible available resources in MyMathLab while working on the assignments. DONOT use trial and error option to find the correct answer since you learn the material while working assignments and it prepares you to perform well in the exams.

- Make study group for interaction, explain something that you already know and ask questions if you do not know about some mathematical concepts with your colleagues. This is one of the wonderful ways to master the mathematical knowledge.
- Attend my regular office hours. Bring questions for interaction.
- Send me an email for help if you need additional time, I will be available for you face-to-face or via zoom some time convenient for you.
- Take assistance with tutors in the TAMUT Student Success Center if you need more help.
- Check your email in a regular basis and follow the announcements that are posted in the blackboard.

Student Learning Outcomes: The Texas Higher Education Coordinating Board adopted Exemplary Educational Objectives (EEOs) to establish a common knowledge thread through the courses taught within the Texas Core Curriculum. The Mathematics EEOs are integrated into the Student Learner Outcomes below:

- To apply arithmetic, algebraic, geometric, higher-order thinking, and statistical methods to modeling and solving real-world situations.
- To represent and evaluate basic mathematical information verbally, numerically, graphically, and symbolically.
- To expand mathematical reasoning skills and formal logic to develop convincing mathematical arguments.
- To use appropriate technology to enhance mathematical thinking and understanding and to solve mathematical problems and judge the reasonableness of the results.
- To interpret mathematical models such as formulas, graphs, tables and schematics, and draw inferences from them.
- To recognize the limitations of mathematical and statistical models.
- To develop the view that mathematics is an evolving discipline, interrelated with human culture, and understand its connections to other disciplines.

Upon successful completion of this course, students will be able to demonstrate:

- To explain the use of data collection and statistics as tools to reach conclusions.
- To recognize, examine, and interpret the basic principles of describing and presenting data.
- To compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinations.
- To explain the role of probability in statistics.
- To examine, analyze and compare various sampling distributions for discrete random variables.
- Describe and compute confidence intervals.
- Solve linear regression and correlation problems.
- Perform hypothesis testing using statistical methods.

Methods of Evaluation and Grading Scale:

Grading Scale:

The course grade will be based on the following categories:

Assignments	20%
Exam 1	18%
Exam 2	18%
Exam 3	18%
Final Exam	26%
Total	100%

$90 \leq A \leq 100$
$80 \leq B < 90$
$70 \leq C < 80$
$60 \leq D < 70$
$F < 60$

Exams: There will be three midterm exams and a comprehensive final exam.

- Missed exams may not be made up unless I am contacted prior to the exam. Only documented medical emergencies, University excused absences, and military duty qualify for missing an exam. Otherwise missed exams will be recorded as a zero.
- All exams will be given in class.
- Each midterm exam date will be announced in class and posted in blackboard at least 1 week in advance.
- The lowest midterm exam score will be replaced by the final exam score if it is better.
- The final examination will be mandatory. The **final exam** will be on **Tuesday, April 27**
No make-up for final.

Assignments: There will be at least an assignment posted in MyMathLab after each class period. Students must submit assignments every week by the specified deadline. The deadline may be extended upon student' request if the student is facing some unusual situation that is determined by the instructor. Besides MyMathLab assignments, additional assignments may be assigned during the semester.

Course outline: The following topics will be covered in the given sequence over the span of the course. The sequence of material may be altered in the interest of time and to maximize student success while preparing them for their plan of study.

Tentative Timeline	Section	Topics
Week 1	1-1	Statistical and Critical Thinking
	1-2	Types of Data
	1-3	Collection Sample Data
Week 2	2-1	Frequency Distributions for Organizing and Summarizing Data
	2-2	Histograms
Week 3	2-3	Graphs The Enlighten and Graphs that Deceive
	2-4	Scatterplots, Correlation, and Regression
	3-1	Measures of Center
Week 4	3-2	Measures of Variation
	3-3	Measures of Relative Standing and Boxplots
		Exam 1
Week 5	4-1	Basic Concept of Probability
	4-2	Addition Rule and Multiplication Rule
Week 5	4-3	Complements, Conditional Probability, and Bayes' Theorem
	4-4	Counting
Week 6	5-1	Probability Distributions
	5-1	Probability Distributions
Week 7	5-2	Binomial Probability Distributions
Week 8	6-1	The Standard Normal Distribution
Week 9	6-2	Application of Normal Distributions
Week 10	6-3	Sampling Distributions and Estimators
	6-4	The Central Limit Theorem
		Exam 2
Week 11	8-1	Basics of Hypothesis Testing
	8-2	Testing of Claim About a Proportion
Week 12	8-3	Testing a Claim About a Mean
	8-4	Testing a Claim About a Standard Deviation or Variance
Week 13	9-1	Two Proportions
Week 14	9-2	Two Means: Independence Samples
	10-1	Correlation

Week 15	10-2	Regression
		Exam 3
Week 16		Final Exam

Incomplete Grade: Incomplete, I, grade may be given when a student with a legitimate reason determined by the instructor. The instructor requires the requested student having D or better grade but he/she is unable to complete all of the requirements because of some unusual circumstances acceptable to the instructor. The grade 'I' may not be used to permit a student to repeat a course or to improve the grade. The student must request the incomplete grade right after the deadline (April 9, 2021) of withdrawal of a class. The student must submit a written request commitment to complete all requirements for the course within a deadline (determined by the instructor) and if he/she is unable to complete those requirements within the specified deadline, the instructor will replace the incomplete grade, I, by the grade, F as the student final grade.

Student Participation: We meet face to face class on campus twice a week on Tuesdays and Thursdays. Students are expected to attend all classes, join the discussion, and complete all assignments for this course. If student missed some class, it is his/her responsibility to find resources for the makeup. If an absence is associated with a university-sanctioned activity, the instructor will provide an opportunity for assignment make-up. However, it is the instructor's decision to provide, or not to provide, make-up for work related or some other absences. It is students' responsibility to practice the posted materials, ask questions if they cannot understand. **Important!** *Student must attend at least 50% of the first week of class otherwise he/she will be administratively dropped.*

Additional Help Recourses: Instructor is the primary resource to lead you towards the right direction for your success. Use his office hours as much as you can. If you are unable to attend during office hours, talk with the instructor on time, he will find additional convenient time for you. If you are struggling with some mathematical and statistical concept, interact with the instructor on time. DONOT wait to take help right before exams. Furthermore, we have experienced math tutors working in the student success center. Instructor strongly recommend to schedule with those math tutors and interact with them to expand your mathematical knowledge.

Calculator: Calculators will be used in this class as a learning tool as well. They are not simply a device to obtain the answer but as a means of exploring, comparing, and understanding concepts that might otherwise be difficult to visualize. A TI-83 or higher, graphing calculator has been recommended. Students are responsible to operate their calculator. TI graphing calculators will be available through the library for student use during this course.

Cell Phone Policy/Classroom Etiquette: Cell phones are to be placed on vibrate mode before class begins. Any behavior that is deemed disruptive to teaching or learning in the classroom will not be tolerated. Please remember that arriving to class late, leaving early, talking during lecture, and texting or otherwise using your cell phone are disruptive to both your instructor and your classmates.

Student Guide to Returning to Campus: Very important! All students are required to follow the "*Student Guide to Returning to Campus*" very carefully. Texas A&M University- Texarkana has already published student guide to create safe learning environment (hand washing, face covering, social distancing etc.) during this COVID-19 pandemic. Student can access the guidebook in the TAMUT website under the Quicklinks (COVID-19). The guidebook will be posted in the blackboard as well.

Academic Integrity:

Academic honesty is expected of students enrolled in this course. Cheating on examinations, unauthorized collaboration, falsification of research data, plagiarism, and undocumented use of materials from any source, constitute academic dishonesty, and may be grounds for a grade of "F" in the course and/or disciplinary actions. For additional information see the university catalog.

Disability Accommodation:

Students with disabilities may request reasonable accommodations through the A&M-Texarkana Disability Services Office by calling 903-223-3062. *It is the students' responsibility to provide a hard copy of a written documentation regarding the accommodation during the first week of classes.*

A&M Texarkana Email Address: Upon application to Texas A&M University-Texarkana an individual will be assigned an A&M-Texarkana email account. This email account will be used to deliver official university correspondence. Each individual is responsible for information sent and received via the university email account and is expected to check the official A&M-Texarkana email account on a frequent and consistent basis. NOTE: Faculty and students are required to utilize the university email account when communicating about coursework.

Drop Policy: To drop this course after the census date, a student must complete the Drop/Withdrawal Request Form, located on the University website, or obtained in the Registrar's Office. The student must submit the signed and completed form to the instructor of each course indicated on the form to be dropped for his/her signature. The signature is not an "approval" to drop, but rather confirmation that the student has discussed the drop/withdrawal with the faculty member. The form must be submitted to the Registrar's office for processing in person, email Registrar@tamut.edu, mail (7101 University Ave., Texarkana, TX 75503) or fax (903-223-3140). Drop/withdraw forms missing any of the required information will not be accepted by the Registrar's Office for processing. It is the student's responsibility to ensure that the form is completed properly before submission. If a student stops participating in class (attending and submitting assignments) but does not complete and submit the drop/withdrawal form, a final grade based on work completed as outlined in the syllabus will be assigned.

Student Technical Assistance: Blackboard Helpdesk contacts:

Julia Allen (main contact) 903-223-3154 julia.allen@tamut.edu

Kyle Barton (alternate) 903-223-3156 kbarton@tamut.edu

Nikki Thomson (alternate) 903-223-3083 nikki.thomson@tamut.edu

Office hours are: Monday - Friday, 8-5pm

I reserve the right to change any policies in the syllabus as the course dictates. These changes will be announced in class and on blackboard.