

South Plains College
Common Course Syllabus: MATH 1342

Department: Mathematics, Engineering, and Computer Science

Discipline: Mathematics

Course Number: MATH 1342

Course Title: Statistical Methods

Available Formats: conventional/flex and internet

Campuses: Levelland, Reese, Plainview, Lubbock Center and Dual Credit

Course Description: Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing.

Prerequisite: Minimum score of 350 on the TSIA, TSI-exempt status, or a successful completion with a grade of 'C' or better in MATH 0337.

Credit: 3 **Lecture:** 3 **Lab:** 0

Textbook: *Elementary Statistics: Picturing the World 7/e*, Farber, Betsy | Larson, Ron. Pearson. ISBN-13: 9780134683416.

Supplies: Please see the instructor's course information sheet for specific supplies.

This course partially satisfies a Core Curriculum Requirement: Mathematics Foundational Component Area (020)

Core Curriculum Objectives addressed:

- **Communications skills**—to include effective written, oral and visual communication
- **Critical thinking skills**—to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
- **Empirical and quantitative competency skills**—to manipulate and analyze numerical data or observable facts resulting in informed conclusions

Student Learning Outcomes: Upon completion of this course and receiving a passing grade, the student will be able to:

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. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics.
4. Explain the role of probability in statistics.
5. Examine, analyze and compare various sampling distributions for both discrete and continuous random variables.

6. Describe and compute confidence intervals.
7. Solve linear regression and correlation problems.
8. Perform hypothesis testing using statistical methods.

Student Learning Outcomes Assessment: A pre- and post-test questions will be used to determine the extent of improvement that the students have gained during the semester

Course Evaluation: There will be departmental final exam questions given by all instructors.

Attendance Policy: Attendance and effort are the most important activities for success in this course. The instructor maintains records of the student's engagement throughout the semester. The student will be allowed to miss twenty percent (20%) of class assignments for the semester, **for any reason**. Should this number be exceeded, the instructor has the right to drop the student with a grade of F or an X, depending on the instructor's discretion.

Plagiarism violations include, but are not limited to, the following:

1. Turning in a paper that has been purchased, borrowed, or downloaded from another student, an online term paper site, or a mail order term paper mill;
2. Cutting and pasting together information from books, articles, other papers, or online sites without providing proper documentation;
3. Using direct quotations (three or more words) from a source without showing them to be direct quotations and citing them; or
4. Missing in-text citations.

Cheating violations include, but are not limited to, the following:

1. Obtaining an examination by stealing or collusion;
2. Discovering the content of an examination before it is given;
3. Using an unauthorized source of information (notes, textbook, text messaging, internet, apps) during an examination, quiz, or homework assignment;
4. Entering an office or building to obtain an unfair advantage;
5. Taking an examination for another;
6. Altering grade records;
7. Copying another's work during an examination or on a homework assignment;
8. Rewriting another student's work in Peer Editing so that the writing is no longer the original student's;
9. Taking pictures of a test, test answers, or someone else's paper.

COVID Syllabus Statement: Should be provided by the Vice-President of Student Services over email.

Student Code of Conduct Policy: Any successful learning experience requires mutual respect on the part of the student and the instructor. Neither instructor nor student should be subject to others' behavior that is rude, disruptive, intimidating, aggressive, or demeaning. Student conduct that disrupts the learning process or is deemed disrespectful or threatening shall not be tolerated and may lead to disciplinary action and/or removal from class.

Diversity Statement: In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world and about

ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

Disability Statement: Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office at Levelland (Student Health & Wellness Office) 806-716-2577, Reese Center (Building 8) 806-716-4675, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.

Nondiscrimination Policy: South Plains College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Vice President for Student Affairs, South Plains College, 1401 College Avenue, Box 5, Levelland, TX 79336. Phone number 806-716-2360.

Title IX Pregnancy Accommodations Statement: If you are pregnant, or have given birth within six months, Under Title IX you have a right to reasonable accommodations to help continue your education. To [activate](#) accommodations you must submit a Title IX pregnancy accommodations request, along with specific medical documentation, to the Director of Health and Wellness. Once approved, notification will be sent to the student and instructors. It is the student's responsibility to work with the instructor to arrange accommodations. Contact the Director of Health and Wellness at 806-716-2362 or [email cgilster@southplainscollege.edu](mailto:cgilster@southplainscollege.edu) for assistance.

Campus Concealed Carry: Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations and Frequently Asked Questions, please refer to the Campus Carry page at: <http://www.southplainscollege.edu/campuscarry.php> Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 9-1-1.

SPC Bookstore Price Match Guarantee Policy: If you find a lower price on a textbook, the South Plains College bookstore will match that price. The difference will be given to the student on a bookstore gift certificate! The gift certificate can be spent on anything in the store.

If students have already purchased textbooks and then find a better price later, the South Plains College bookstore will price match through the first week of the semester. The student must have a copy of the receipt and the book has to be in stock at the competition at the time of the price match.

The South Plains College bookstore will happily price match BN.com & books on Amazon noted as *ships from and sold by Amazon.com*. Online marketplaces such as *Other Sellers* on

Amazon, Amazon's Warehouse Deals, *fulfilled by Amazon*, BN.com Marketplace, and peer-to-peer pricing are not eligible. They will price match the exact textbook, in the same edition and format, including all accompanying materials, like workbooks and CDs.

A textbook is only eligible for price match if it is in stock on a competitor's website at time of the price match request. Additional membership discounts and offers cannot be applied to the student's refund.

Price matching is only available on in-store purchases. Digital books, access codes sold via publisher sites, rentals and special orders are not eligible. Only one price match per title per customer is allowed.

Note: The instructor reserves the right to modify the course syllabus and policies, as well as notify students of any changes, at any point during the semester.

Math 1342.201MW Syllabus Statistical Methods

Instructor: Mrs. Morgan Groves Email: mgroves@southplainscollege.edu Office: 223F – Reese Building 2 Office Phone: 716-2735	Office Hours: MW 1:15pm – 2:45pm TR 8:30am – 10:00am (<i>Virtual</i>) F 10:30am – 12:30pm (or by appointment)
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Course Structure: This is a hybrid/flex course. This course is 2 days per week where each student will attend a lecture in person on one day and virtually attend the lecture the next class day each week. There is a survey each student needs to take prior to classes starting to inform the instructor which day each week they would prefer to attend lecture face to face, if a preference exists. This survey can be found on Blackboard. Attendance for virtually attending students is still taken and counts!

Textbook: This section does NOT require you to purchase a physical textbook. All resources are online through MyStatLab.com (the online homework system) or in your class notes found on Blackboard. You can purchase a physical copy of the book below if you desire, but an electronic copy is available online after you gain access to MSL.

Course Requirements/Materials: To maximize the potential to complete this course, a student should attend all class meetings, take notes and participate in class, and complete all homework assignments and examinations including the final exam in the allotted time. All students are expected to have reliable internet access, a reliable laptop or tablet, a printer, and either a scanner or a smart phone for submitting PDF documents. Students will also need to purchase the access to MyStatLab after the 14-day free trial period ends.

Grading:	Tests (3 total)	65%	<u>Grading Scale:</u>	A 90-100
	Daily	15%		B 80-89
	Final Project	20%		C 70-79
				D 60-69
				F 59 or below

****Note: Students must justify answers or show work on all problems to receive full credit.*

Homework: All homework assignments will be on MyStatLab, an online homework system, that is access through Blackboard. Homework is to be completed by the due dates posted on each assignment. No late homework will be accepted. The use of any statistical solving apps/programs (i.e. PhotoMath, etc.) is strictly prohibited and can result in academic dishonest proceedings. All work in this class must be your own!! Three low daily grades will be dropped at the end of the semester.

Tests: There will be a total of 3 in class exams in this course. No notes/homework/textbooks will be allowed on ANY exam. Certain formula sheets will be allowed and provided by your instructor. All exams are expected to be completed in the allotted class time, no exceptions. No exam grades will be dropped. Exam corrections are for your own learning well-being and will not be graded but are expected to be completed after each exam is returned. It is in your best interest to save ALL graded documents until your final grade is assigned at the end of the term.

Exams will be given in two sittings if the class size is too large to have all students present at the same time. You will be given the opportunity to sign up for one of the time slots for each exam. *This policy can change as we learn what works best for this class.*

Final Project: In lieu of a final exam, there is a final project that will be assigned covering all major topics from this course. You will have no less than 1 week to complete the project and turn it in. No late submissions will be accepted. The project should be entirely your own work. You cannot use the help from tutors, other students, or other instructors besides the instructor for this section of this course (Mrs. Groves). The project will have more directions to come later in the semester.

Late work: Late work is not accepted. If you do not turn in an assignment on time, you will receive a zero.

Class Notes: The class notes (outline) will be posted on Blackboard for you to print. It is the responsibility of the student to bring the notes to class everyday. Be sure to look at the tentative calendar to see what topics we will cover next.

Calculators: This course is taught under the assumption that each student owns a scientific calculator (graphing feature optional but recommended). I recommend a TI 84 series calculator. TI NSpires or Casios are NOT recommended unless you are an expert at using them, as the instructor will be of little help.

Class Rules:

- Be on time and ready to learn.
- Use only pencil for all assignments.
- Students are not permitted to use electronic devices, other than a calculator, in class. **Put the cell phones away!!**
- During testing, all cell phones should be placed on SILENT or turned off, and all smart watches need to be removed and placed on the floor face-down to the left of your seat. Any student who leaves the classroom for any reason (bathroom, phone call, etc.) during an exam will not be allowed to continue the exam upon their return. Once you leave the classroom during an exam, you are done.
- Adhere to the requirements of the Student Code of Conduct.
- ***If you are joining the class through virtual means, please keep your microphone on mute until you have a question.***

Tentative Calendar for Math 1342 MW – Fall 2020				
Week	Day	Date	Topic	Notes & HW
1	Monday	Aug 24	Syllabus, An Overview of Statistics, Data Classification	1.1 – 1.2
	Wednesday	Aug 26	Data Collection and Experimental Design	1.3
2	Monday	Aug 31	Frequency Distributions and Their Graphs More Graphs and Displays	2.1 – 2.2
	Wednesday	Sept 2	More Graphs and Displays Measures of Central Tendency	2.2 – 2.3
3	Monday	Sept 7	Labor Day	
	Wednesday	Sept 9	Measures of Variation	2.4
4	Monday	Sept 14	Measures of Variation Measures of Position	2.4 – 2.5
	Wednesday	Sept 16	Basic Concepts of Probability and Counting	3.1
5	Monday	Sept 21	Conditional Probability and the Multiplication Rule The Addition Rule	3.2 – 3.3
	Wednesday	Sept 23	Additional Topics in Probability and Counting	3.4
6	Monday	Sept 28	Exam 1	Units 1 - 3
	Wednesday	Sept 30	Probability Distributions, Binomial Distributions	4.1 – 4.2
7	Monday	Oct 5	Intro to Normal Distributions and Standard Normal Distributions	5.1
	Wednesday	Oct 7	Normal Distributions: Finding Probabilities, Finding Values	5.2 – 5.3
8	Monday	Oct 12	Sampling Distributions and The Central Limit Theorem Confidence Intervals for the Mean (Large Samples)	5.4 – 6.1
	Wednesday	Oct 14	Confidence Intervals for the Means (Small Samples) Confidence Intervals for Population Proportions	6.2 – 6.3
9	Monday	Oct 19	Exam 2 Activity/Review	
	Wednesday	Oct 21	Exam 2	Units 4 - 6
10	Monday	Oct 26	Introduction to Hypothesis Testing	7.1
	Wednesday	Oct 28	Hypothesis Testing for Mean (Large Samples), Hypothesis Testing for Mean (Small Samples)	7.2 – 7.3
11	Monday	Nov 2	Hypothesis Testing for Proportions	7.4
	Wednesday	Nov 4	Testing the Difference Between Means (Large Independent Samples), Testing the Difference Between Means (Small Independent Samples)	8.1 – 8.2
12	Monday	Nov 9	Testing the Difference Between Means (Dependent Samples), Testing the Difference Between Proportions	8.3 – 8.4
	Wednesday	Nov 11	Correlations, Linear Regression	9.1 – 9.2
13	Monday	Nov 16	Measures of Regression and Prediction Intervals	9.3
	Wednesday	Nov 18	Exam 3 Activity/Review	
14	Monday	Nov 23	Exam 3	Units 7 - 9
	Wednesday	Nov 25	Thanksgiving Break	
15	Monday	Nov 30	Final Project	
	Wednesday	Dec 2	Final Project	
	Monday	Dec 7	Final Project Due by noon (12pm)	

*Last Day to drop: November 19th