Math 1342 Syllabus
Elementary Statistical Methods
Spring 2022 Sul Ross State University

Secs. **001**, **ALP**:	Mon, Wed, Fri: 11–11:50a in ACR 204
Instructor:	Dr. Kris Jorgenson
Office:	ACR 109D
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Office Hours:	Mon, Tue, Wed, Thu, Fri: 10-11a; Wed, Thu: 3:30-5p;
	Fri: 3-5p; also by appointment

Course Description: This is an introductory statistics course designed for the student to develop critical thinking skills necessary to interpret statistical information. In this course, the student will prepare for further statistical work in his/her field. Topics include: measures of central tendency, measures of variation, normal distributions, hypothesis testing, and graphical representations. Use of technology and real-world data is integrated throughout the course. Prerequisites: Completion of MATH 0301 or a satisfactory score on the Mathematics Placement Test.

Student Learning Objectives: Successful students will demonstrate correct understanding and knowledge of the topics including but not limited to those listed in the previous paragraph. Students will apply knowledge of concepts and problem-solving methods to new contexts and situations. Students will demonstrate correct knowledge of the difference between numbers that are in exact form and numbers that are approximate and will be able to report numbers in exact form and with a correct approximation when required. Students will express their solutions clearly in writing and by using complete sentences when appropriate.

Pandemic Restrictions
It is strongly encouraged that students get a vaccination and a booster and wear a proper face covering in class and observe social distancing."Proper face covering" does not include a mask with an air valve or a single-layer, cloth handkerchief. Cloth handkerchiefs can be used if they are folded to create a double-layer (or more) or have another mitigating layer such as a coffee filter inserted underneath. "Social distancing" means a 6-foot (or more) distance between people with proper face coverings.

Necessary Materials: Textbook: Beginning Statistics 3rd Edition by Warren, Denley, and Atchley, Software and Ebook only: ISBN: 978-1-64277-279-1.
For Software + Ebook + Textbook: ISBN: 978-1-64277-280-7. Your homework grade will be based primarily on online homework, which I denote as OHW (Online Homework).
Scientific Calculator: There will be some need of a scientific calculator, which has

buttons with denotations such as y^x, a^b, or ^, e^x, LN, LOG, but use of a calculator will not be a large part of this course. Only a stand-alone (not connected to a phone or computer) calculator may be used in the in-class quizzes and tests. Appropriate scientific calculators cost usually $10-$50 each. Any graphing calculators (for example the TI-83, TI-84, TI-89 or TI-92) **are not allowed**.

Class Materials: Students are expected to be prepared in every class with pencils and paper in some sort of organized notebook for taking notes of lecture content and examples, and for homework. You are required to be involved in class activities every class day. This will be part of your grade.

Blackboard: You are required to have access to Blackboard and have an e-mail address that you check regularly be your e-address registered in Bb since I will regularly need to contact you outside of class with important information.

Grading and Assignments: The assignments discussed below will help students achieve all of the Learning Objectives mentioned previously through active learning and assessment. Your total grade will break down as follows:

Daily Grade (**DG**) is worth **30**% and consists of **Class Study Grades** (**CSG**) **15**% and **Online Homework** (**OHW**) **15**%. The **Test Average** worth **70**% will be based on 3 in-class tests.

There will be some grade given in every class period except the 1st day of class. A **Class Study Grade** (**CSG**) will be based on credit for attendance and involvement in in-class activities on days on which there is no test. The **Online Homework** (**OHW**) will be done outside of class. You should collect the OHW in a **notebook** so that you get practice writing problems out by hand as you will on the in-class tests. The OHW will include any in-class quiz grades.

There will be **3 Unit Tests** each based on the corresponding Unit Assignments. Each of these tests will count in your **test average**. You may only use pencil(s)/eraser(s) and a scientific calculator during the tests in addition to 1 page of notes created before the test. On the weeks of the first two unit tests, Monday will be a day for review; the first 20-25 minutes of Wednesday's class will be devoted to review followed by work on the 1st part of the test for the last 25-30 minutes of the class period. Then Friday will be a class devoted entirely to part 2 of the test In this way, students will have at least 75 minutes to work on each test. Test 3 will be given during the alotted 2-hour final exam period. The test dates will be as follows.

Test 1	**Wed. Feb. 9 and Fri. Feb. 11**
Test 2	**Wed. March 23 and Fri. March 25**
Test 3	**Tue., May 3, 10:15a-12:15p**

To Guarantee Full Credit for Work Done at a Time Different Than the Scheduled Time:

* For Tests or In-class Quizzes, be sure to contact me about the missed grade **before or by the day of the absence** and be able to produce documentation for a medical excuse or from a faculty sponsor for an absence due to a trip with a Sul Ross student

organization. You can send me these documents by e-mail or in-person. Be sure to make an appointment with me to make up the quiz or test in my office area no more than 2-3 days before or after the absence.

* For a Class Study Grade, if you document your absence as explained in the previous paragraph, you can earn the CSG by joining the class through **Blackboard Collaborate** (BbColl). If you are not able to join in through BbColl, you would need to make up the CSG in my office area before the day of the next test.

* For Online Homework, as explained previously, the OHW deadlines are a guide to help you keep up with these online assignments, but you can still earn full credit on an OHW assignment as long as you complete it before the next impending test.

Attendance I will be taking attendance as university policy precludes you from missing 3 weeks or more for anything other than authorized university activities. To excuse an absence for a university activity, in addition to letting me know of the absence by the day of the absence (as explained previously) you must also spend at least 45 minutes outside of class on this course with me or with a tutor, but they will need to sign a note that documents this made-up time. Also I will allow you to excuse a test day for a documented medical absence as long as you also make up the test with me or in the testing center. If you have 3 weeks or more of unexcused absences, I reserve the right to drop you from this class with a grade of 'F', which is university policy.

Good Advice Concentrate on learning the material of the course rather than worrying about your grade. Your time is best spent concentrating on the material to be learned in the impending assignments, asking questions, and devoting yourself to activities that will help you learn the material and do better in the course. I will worry about the details of your grade since you doing so does not help you earn a higher grade. But learning the material and doing well on the tests *will* help your grade. **Remember that math is not a spectator sport**, so the more problems you work yourself, the more practice you will get, and the more confident you will be, and you will do better in this course. Working on the problems helps you to figure out what your specific questions are. Remember an individual homework or quiz grade may not count for a lot in your overall grade, but working and learning from the homework and quizzes is **essential** because this is where you learn the topics that will appear on the tests, which do count for a lot of your grade. The best lessons learned often come from correcting a quiz or homework problem in which you have made a mistake.

More Good Advice

Keep absences to a minimum. You never know when you might miss something important either from the lecture or class discussion such as questions other students ask. Remember: YOU ARE RESPONSIBLE FOR EVERYTHING THAT IS DISCUSSED DURING CLASS WHETHER YOU ARE PRESENT OR NOT.

Also do not allow yourself to develop bad habits such as missing classes. It's human nature to be controlled by our habits, so once you develop a weekly habit for

the semester, it can be hard to break this habit. So be sure that you allow the necessary time for this course FROM THE BEGINNING OF THE TERM, ESPECIALLY if you consider mathematics to not be your best subject. If you have trouble in math, then you should attend EVERY class of a college mathematics course. Not showing up to class or not doing the required work will not cause this class to magically go away. If you are not understanding the material and/or have fallen behind in your work, missing class will not help. IF YOU FALL BEHIND, PLEASE DO NOT DROP THIS COURSE WITHOUT TALKING TO ME FIRST. Making mistakes or falling behind is natural, so it is best to talk to me about this. If you do have to miss class, let me know beforehand. Discuss with me what you are not understanding. It is essential to get your questions answered. But meeting with me outside of class is not a substitute for attending class.

Ask questions no matter how easy or trivial they may seem. There is no such thing as a bad or silly question. Questions result when you are interested and have been thinking about areas, such as mathematics, in which you have limitations in your educational background. Being in a college mathematics course means you will have questions both obvious and more subtle. Asking questions is a very important part of learning.

Study and work problems regularly–every day or every other day. Work on assignments discussed in class as soon as you can after class while the methods discussed are still fresh in mind. You can't expect to succeed in a math course by waiting till the last minute to only study and cram prior to a test. If you promise yourself you will study for a ½-hour, get into the work, forget the clock, then the next thing you know, you've studied and worked for one to two hours. Remember that

LEARNING FROM MISTAKES + PERSISTENCE = SUCCESS!

Classroom Conduct It is important to conduct yourself in a college classroom so that everyone can benefit from good communication between instructor and students. My goal is to create an environment in which everyone can do their best work, learn, and make the best grades possible.

I think you will find that I am a very friendly, sympathetic, and generous instructor as long as you are sincerely working to succeed in this course and certain guidelines for classroom behavior are followed to allow a sanctity of study for your fellow students. Habits such as holding conversations during class, or being engaged in activities not related to this course such as working on a different course or reading your cell-phone will work against the goals of this course and cause you to be counted absent and you will lose Daily Grade credit. Also engaging with electronic communication devices of any kind during class or coming into class more than 5 minutes late or leaving early before class is dismissed circumvent the goals of this course and cause you to lose credit. My sympathy and generosity will quickly evaporate if I find that you are working against the goals of the course or that you are simply trying to get a good grade without learning or without honestly doing the required work. I want you to have every opportunity to learn and succeed in this course.

Please be aware of the rules for Academic Honesty that you will find in the Sul

Ross Student Handbook. Use commonsense to think of anything else that will allow you to learn and do the best work that you can in this class, and for me to better help you do your best work. Remember that being registered for this course does not allow you to behave in any manner you wish during class. You must keep other people in mind. It is within university policy for me to send a student out of this class on a temporary or permanent basis if disruptions or interruptions like the types listed above persist.

SRSU Alpine Disability Services. Sul Ross State University (SRSU) is committed to equal access in compliance with Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the student's responsibility to initiate a request each semester for each class. Alpine students seeking accessibility/accommodations services must contact Mary Schwartze Grisham, M.Ed., LPC, SRSU's Accessibility Services Coordinator at 432-837-8203 (please leave a message and we'll get back to you as soon as we can during working hours), or email mschwartze@sulross.edu . Our office is located on the first floor of Ferguson Hall (Suite 112), and our mailing address is P.O. Box C-122, Sul Ross State University, Alpine. Texas, 79832.

This course is supportive of the
Student Learning Outcomes for the Bachelor of Science degree in Mathematics:

1) The student will be able to demonstrate content knowledge of basic mathematical principles.

2) The student will be proficient in logic, able to negate statements, provide counterexamples to false statements, and determine the validity of arguments.

3) The student will be able to communicate mathematical content clearly and with valid reasoning.

Program Marketable Skills:

Marketable Skill (MS) 1: Students Demonstrate Logical and Analytical Skills.

MS 2: Students Demonstrate Problem-Solving Using Analytic and Algebraic Methods.

MS 3: Students Use Technology in Problem-Solving and Presentation.

MS 4: Students Use Communication and Pedagogical Skills.

For Core Curriculum Courses Only for 2021-2022.

- Critical Thinking. Students will develop critical thinking skills to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
- Empirical & Quantitative Skills. Students will develop empirical and quantitative skills to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusion.

Classroom Climate of Respect

Importantly, this class will foster free expression, critical investigation, and the open discussion of ideas. This means that all of us must help create and sustain an atmosphere of tolerance, civility, and respect for the viewpoints of others. Similarly, we

must all learn how to probe, oppose and disagree without resorting to tactics of intimidation, harassment, or personal attack. No one is entitled to harass, belittle, or discriminate against another on the basis of race, religion, ethnicity, age, gender, national origin, or sexual preference. Still we will not be silenced by the difficulty of fruitfully discussing politically sensitive issues.

Diversity Statement

"I aim to create a learning environment for my students that supports a diversity of thoughts, perspectives and experiences, and honors your identities (including race, gender, class, sexuality, religion, ability, socioeconomic class, age, nationality, etc.). I also understand that the crisis of COVID, economic disparity, and health concerns, or even unexpected life events could impact the conditions necessary for you to succeed. My commitment is to be there for you and help you meet the learning objectives of this course. I do this to demonstrate my commitment to you and to the mission of Sul Ross State University to create an inclusive environment and care for the whole student as part of the Sul Ross Familia. If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to come and talk with me. I want to be a resource for you."

Important Dates

Mon, Jan. 10	First day of classes, first day of late registration
	and schedule changes
Thu, Jan. 13	Last day for late registration and schedule changes
Mon, Jan. 17	Martin Luther King, Jr. Holiday, No Classes
Wed, Jan. 26	Last Day to Drop a Class with No Academic Record,
	12th class day
Mon.-Fri. March 7-11	Spring Break Holidays, No Classes
Mon, March 28	Last day to drop a class with a grade of “W”
	by 4 pm in University Registrar’s Office
Fri, April 15	Good Friday Holiday, No Classes
Wed, April 27	Last Day of Class before Finals
Thu, April 28	Dead Day, No Classes
Fri, Mon-Wed: April 29, May 2-4	Final Exams, End of Term

Tentative Class Schedule-Math 1342, Spring 2022			
X = no class	Mon	Wed	Fri
Jan. 10, 12, 14	First Day Meet Students Read Syllabus	Ch 1: Types of Statistics	Qualitative, Quantitative Data Continuous, Discrete
Jan. 19, 21	**X - MLK Day Holiday, No Classes**	Statistical Studies How to Critique a Study	Statistical Studies How to Critique a Study
Jan. 24, 26, 28	Ch 3: Measures of Center Mean, Median, Mode	Measures of Center Mean, Median, Mode	Measures of Dispersion Range, Variance, Standard Deviation
Jan. 31, Feb. 2, 4	Measures of Dispersion Range, Variance, Standard Deviation	Percentiles, Quartiles 5-number Summary Box Plot	Percentiles, Quartiles 5-number Summary Box Plot
Feb. 7, 9, 11	Review for Test 1	Review for Test 1 **Test 1, Part 1** Test 1: Chs. 1, 3	**Test 1, Part 2**
Feb. 14, 16, 18	Ch 2: Frequency Distributions	Graphical Displays of Data	Analyzing Graphs
Feb. 21, 23, 25	Sec. 4.1: Introduction to Probability	Ch. 5: Discrete Random Variables	Binomial Distributions
Feb. 28, Mar. 2, 4	Binomial Distributions	Ch. 6: Intro to Normal Distributions Standard Normal Dist.	Standard Normal Dist. Finding Probability Using a Normal Dist.
March 7-11 X - Spring Break Holiday, No Classes ----------->			
Mar. 14, 16, 18	Finding Values of a Normally Distributed Random Variable	Approximating a Binomial Distribution Using a Normal Distribution	Approximating a Binomial Distribution Using a Normal Distribution
Mar. 21, 23, 25	Review for Test 2	Review for Test 2 **Test 2, Part 1** Test 2: Chs. 2, 4, 5, 6	**Test 2, Part 2**
March 28, 30, April 1	Ch. 7: Sampling Distributions and the Central Limit Theorem	Central Limit Theorem with Means	Central Limit Theorem with Means
April. 4, 6, 8	Ch. 8: Estimating Population Means with sigma Known	Student's *t*-distribution	Estimating Population Means with sigma Unknown
April. 11, 13,	Ch. 10: Fundamentals of Hypothesis Testing	Hypothesis Testing for Population Means sigma Known	**X - April 15 Good Friday Holiday, No Classes**
April. 18, 20, 22	Hypothesis Testing for Population Means sigma Unknown	Hypothesis Testing for Population Means sigma Unknown	Ch. 12: Scatterplots and Correlation
April. 25, 27	Linear Regression Regression Analysis	Review for Test 3	**X - No Class First Day of Finals**
Tue., May 3	**Tue., May 3, Test 3 (Final Exam), Chs. 7, 8, 10, 12 Test 3: 10:15a-12:15p**		