

MATH 1342
Statistical Methods
(3:3:0)

DEPARTMENT OF MATHEMATICS & ENGINEERING

**ARTS & SCIENCES DIVISION
SOUTH PLAINS COLLEGE**

Fall Semester, 2018
Mr. Robert E. Plant, II

General Course Syllabus

Department: Mathematics and Engineering

Discipline: Mathematics

Course Number: Math 1342

Course Title: Statistical Methods

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

This course satisfies a core curriculum requirement: Yes – mathematics

Prerequisites: Math 1314 or Math 1324

Available Formats: conventional

Campuses: Levelland Campus, Reese Campus, Plainview

Textbook: **Elementary Statistics, A Brief Version**, 7th edition, Bluman, McGraw Hill

Supplies: scientific calculator

Course Description: This course is a study of the methods of analyzing data, statistical **Course Description:** This course is a study of the methods of analyzing data, statistical concepts and models, estimation, tests of significance, introduction to analysis of variance, linear regression, and correlation.

Course Purpose/Rational/Goal: The purpose of the course is to provide a fundamental background in statistics that can be used as a basis for studies in many fields. This course will meet the requirement for mathematics in the core curriculum and for any major that requires an elementary statistics course.

Course Requirements: To maximize the potential to complete this course, a student should attend all class and laboratory meetings, take notes and participate in class, complete all homework assignments and examinations including final examinations.

Course Evaluation: Please see the instructor's course information sheet for specific items used in evaluating student performance.

Student Learning Outcomes/Competencies:

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

1. Represent raw data using various tables and graphs.
2. Calculate measures of central tendency, variation, and position for both grouped and ungrouped data and interpret in writing the significance and meaning of calculations.
3. Calculate coefficients of variation and skewness and interpret in writing the significance of the calculations.
4. Calculate classical and empirical probabilities.
5. Apply binomial and normal distribution properties to calculate probabilities and interpret in writing the significance of the calculations.
6. Calculate mean, variation, and standard deviations of probability distributions and interpret in writing the significance of the calculations.
7. Evaluate a hypothesis-testing situation to determine the appropriate test to be used.
8. Use parametric and non-parametric tests for hypothesis testing and interpret in writing the significance of test results.
9. Calculate coefficients of correlation, determination, and non-determination and interpret in writing the significance of the calculations.
10. Calculate linear regression equations and standard error and use equations to make predictions.
11. Use various statistical packages and/or a calculator with statistical capabilities to help with computation.

Core Objectives:**Communication Skills:**

effective development, interpretation, and expression of ideas through written, oral, and visual communication.

- Develop, interpret, and express ideas through written communication
- Develop, interpret, and express ideas through oral communication
- Develop, interpret, and express ideas through visual communication

Critical Thinking:

creative thinking, innovation, inquiry, analysis, evaluation, and synthesis of information.

- Generate and communicate ideas by combining, changing, and reapplying existing information
- Gather and assess information relevant to a question
- Analyze, evaluate, and synthesize information

Empirical and Quantitative Competency Skills:

the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

- Manipulate and analyze numerical data and arrive at an informed conclusion
- Manipulate and analyze observable facts and arrive at an informed conclusion

MATH 1342—Statistical Methods
South Plains College, Levelland campus
Fall Semester 2018

Sections: 002—MW, 2:30-3:45 p.m.

Rooms: Levelland Math Bldg. 3, Room 304

Instructor: Mr. Robert E. Plant, II, M.S.

Office Info: Room—Levelland Math Bldg. 116B
 Phone—(806) 894-9611 x2734
 Hours—the following table will display the regular office hours.

Monday	Tuesday	Wednesday	Thursday	Friday
<i>13:10 – 14:25</i>	<i>13:10 – 14:25</i>	<i>13:10 – 14:25</i>	<i>13:10 – 14:25</i>	<i>9:00 a.m.-Noon</i>
<i>or by appointment</i>				

E-mail: rplant@southplainscollege.edu

O.P.I.*: This syllabus is © 2018 by Mr. Robert E. Plant, II

* O.P. I. means “other pertinent information,” or in layman terms, “something else that you need to know.”

Tutoring: Free tutoring is available in room 116 of the Mathematics-Engineering Building, at the Reese Center campus in Rooms RC211 and RC212, and at the Lubbock Center (40th and Avenue Q). (Please remember to verbally request a tutor and to sign in when you seek the help of a tutor in each of these places.)
 Videos for this course are also available. Students are encouraged to view these by accessing them online via YouTube.
 There are alternate tutoring resources available online for students upon request.

“Practice & Application Sustain Success! #PASS”

—Instructor

Fundamental Principles of Mathematics

Mathematics is built upon two fundamental principles—pattern recognition and problem solving. Students must become able to recognize patterns to solve *types* of problems. Too often have I observed students hang most of time up on each specific problem, so it is my mission as your instructor to emphasize that there are sets of problems within the homework (HW) assigned that require ***one concept or skill to solve all problems in each set!*** It is the ultimate objective of this and any other mathematics course to enable you as the student to become proficient in both areas. But until you have reached the point of mastery in both, I submit to you a paraphrase of a quote taken from Tupac Shakur: “**All eyes on me!**”

Guide to Being Successful in This Course

For YOU the student to be successful at this or any other level of higher education, YOU must be aware of one very important aspect: student accountability. I as the instructor am accountable for aiding in your success by properly presenting the mathematical concepts of this course, as well as any real-world applications, in a manner that allows for the general group of students to display understanding of said information. YOU as the student are accountable for your success by putting forth the effort necessary to gain such understanding. This is achieved by completing all assignments using the information that I have presented in the lecture and by asking questions regarding any concepts that are not understood. If YOU fail to do what is required in this course, then YOU will be responsible for the just grade that is received.

Guide to Solving Mathematical Problems

When solving a mathematical problem, the following questions must be answered:

Q1. What *known* information does the problem give me?

A1. You will be shown, through examples given by the instructor, how to list the known information of the problem. Use this process unless a more suitable one is known by you. Spare no details until you have ***mastered*** this concept of setting up the problem. Once you have done so, then you can afford to spare some of the details.

Q2. What information given in the problem do I *not* know, and how do I *find* it?

A2. In this course, you will deal with problems that have unknown information which must be found. Most of these problems will have one unknown; however, there will be a few that will have two, which is the ***maximum*** number of unknowns that will be examined for any problem. The instructor will show you the procedures necessary for finding these unknowns.

Q3. When is the problem solved or completed?

A3. The problem will be solved or completed ***when there is no unknown information remaining***. Each section covered in this course will have problem exercises that are designed to reinforce the concept(s) of the section, and there will be more than one problem assigned per concept (unless otherwise stated by the instructor at the time of assignment).

Expectations of the Student for the Instructor

The Student is within all rights to expect that the Instructor do the following:

- Show up, as scheduled, to teach all information pertaining to the course.
- Use the entirety of the lecture period as well as the allotted lab time for this course.
- Provide notice of any schedule changes.
- Maximize the time allotted for this course by assessing student aptitude of covered information at the close of each lecture, when time permits.
- Present the material in a manner that can generally be understood by most of the class.
- Be accessible to those who need assistance outside of the classroom setting, by way of e-mail or in person, during office hours or reasonably scheduled appointment times.
- Respond to all e-mails in a timely and discretionary manner
- Hold to any assignment(s) given during the semester unless removed.
- Uphold the policies of the college as it pertains to the student's welfare in the course.
- Not make any exceptions regarding the dismissal of any student from the course for reasons listed herein.
- Allow each student the opportunity to discuss the material presented during the lecture period.
- Provide examinations based on the information discussed in class that contain problems which use solving methods *like* those assigned from sections pertaining to the exam.

Expectations of the Instructor for the Student

The Instructor is within all rights to expect that the Student do the following:

- Show up, as scheduled, to receive and learn all information pertinent to the course and be mindful of any schedule changes.
- Take advantage of *all* resources available to you. These resources, which include the Office Hours and the Tutoring Lab, have been previously stated in the syllabus.
- Be respectful of your peers and the Instructor as stated in the SPC Student Handbook.
 - In the collegiate setting, all students are adults and are expected to uphold conduct worthy of such consideration.
 - Failure to do so provides sufficient grounds for the Student to be dismissed from the course.
- Be willing to work together with—**BUT NOT DO WORK FOR**—fellow classmates.
 - Networking is an essential tool both in the workforce and in the classroom; furthermore, the greater the numbers of minds there are involved, the less mental labor is required for everyone.
 - No one is an island... *except on the exams!*
- Be mindful of the classroom setting and the roles therein.
 - While student tuition is vital to the well-being of this academic institution, this does NOT warrant the concession of any instructor to you in a manner that compromises the integrity of the classroom setting and that of the institution itself.
- *Write all graded work legibly and in pencil only. All work not done in pencil will not be accepted by me and will cause you to receive a grade of zero percent (0%) for the work in question.*

- Turn all electronic devices *off* that have no use in the classroom setting.
 - This means all music players, cellular telephones (or cell phones), etc.
 - If a cell phone must be on (family emergencies only), then the phone must be put on vibrate mode and placed on your desk.
 - ***Tablets and digital notebooks during lecture are allowed.***
 - If a disallowed device is in use during an exam, then the grade for said exam will be zero percent (0%).
- Bring all materials needed for the course and refrain from bringing anything that is not needed. This allows you to pay attention to the subject matter only and shows me that you are prepared to learn.
- Obtain all missed information and assignments from a fellow classmate.
 - In the spirit of holding to all course objectives in a manner that warrants personal accountability, I will not relay such information unless necessary.
 - This means that ***if there is no documented reason for missing the information, then find your peers, not me.***
- READ THE SYLLABUS!!!
 - If you lose the copy I give you, then you will have to obtain another copy from Blackboard.
 - There are ***no exceptions*** to this rule!

Attendance Policy

Optimal attendance and promptness on the part of both the Student and the Instructor are necessary in order for the Student to maximize the potential for success in this course; as such, an excess of either absences or tardiness cannot be tolerated from either party. Here are the ground rules for this course regarding attendance:

- Two (2) counts of a student being tardy is equivalent to one (1) count of a student being absent.
 - Use of an unauthorized device during lecture is grounds for the Student being counted tardy and dismissed for the lecture period in question.
- Four (4) absences, or any combination of tardy counts and absences that add to equal four absences, are allowed **for any reason** in this course. ***If this count is exceeded, the Instructor has the right to drop the Student with a grade of X or F.***
- The Student is provided the right to be reinstated to the course, at the discretion of the Instructor, by no later than one week after the initial drop date.
 - All subsequent drops are final.
- All absences that are due to required attendance at SPC-sponsored events will be excused provided that the Instructor is properly notified before said event.
- Unless otherwise notified by the Office of the Dean of Students, no absences due to illness will be treated as excused.
 - Such absences that cause the minimum count to be exceeded will be handled at the Instructor's discretion.
- If the Student must withdraw from the course, then this action must take place by no later than **November 15, 2018**, which is the last day to withdraw from a course.

Failure to withdraw from the course by the deadline will subject the student to receiving the grade earned at the time of withdrawal.

Required & Disallowed Materials for the Course

The following materials are required of the Student for this course:

- Pencil—This will be required for all work that is to be graded by the Instructor
- Ruler—This will be required for the Graphing portion of this course
- Multi-subject Notebook (with at least 5 sections)—This will be required for the Student to keep his/her notes; any writing utensil may be used to take notes, and ***the notebook is to be used in this course only***
- Three-ringed Binder—This will be required to store all Homework (HW) that is assigned in the course; should be stocked with at least 250 sheets of loose-leaf writing paper and at least 100 sheets of graphing paper, which are sold separately
- **Scientific calculators**—These are allowed in this course and cannot exceed the quality of a TI-84 Calculator; no extra calculators are required of the Instructor to provide in the event of the Student not having his/her own
- Syllabus Acknowledgment of Receipt—The filling in, signing, and returning of said form is prerequisite for any accommodations stated in the syllabus to be recognized for the Student; nonetheless, the Student is still expected to uphold any responsibilities that are stated herein

The following materials and situational items are disallowed in this course:

- Cell phones—Usage of cell phones during lecture is prohibited in this course
 - Usage during lecture may result in dismissal from lecture and a counted absence
 - Usage during an exam is grounds for immediate dismissal from the course
- Online math answering programs—Programs that provide “solutions” to unworked problems, such as Chegg, MathWay, PhotoMath, and Wolfram Alpha are strictly prohibited from use in this course
 - First Offense—Dismissal from lecture and counted absent
 - Second Offense—Student will be dropped from the course
- TI-89 and *n*-Spire calculators—Due to the wide range of capabilities for these calculators, the use thereof is prohibited; cell phone calculator usage is also disallowed; repeated violation will result in the ***dismissal of the Student from the course***
- Pen for doing graded work—Use thereof in said circumstance will result in a zero percent (0%) for the assignment in question
 - All work must be shown in pencil
 - Writing each question in pen is permitted
 - Circling/boxing answers in pen/highlighter is allowed
- Notes on exams—Use thereof in said circumstance that is not permitted by the Instructor will result in the immediate dismissal of the Student from the course.
- Student Solutions Manuals during class time—Use thereof in said circumstance will result in the Student being dismissed from the classroom and being counted as absent for the day in question

If the Student has any concerns pertaining to the information above on this page, then the Student is to contact the instructor by the means stated in this document. The Instructor cannot be reasonably expected to address any such concerns if no communication is had with the Student.

Grading Policy*

90% or above	A	HW notebooks: 20% (4 @ 5%)
80-89%	B	SOS** Projects: 20% (10 @ 2%)
70-79%	C	In-class examinations: 40% (4 @ 10%)
60-69%	D	Final examination: 20%
59% or below	F	

*All grades are rounded from the first decimal. Borderline grades (within 2% of the minimum) will be handled by the Instructor based on the Student's compliance with the Syllabus. Upon the submission of grades at the end of the semester, **ALL GRADES ARE FINAL!**

** "SOS" means "SPEAKING OF STATISTICS", which is a small project of a Chapter marked with a yellow background. ["SOS 5.1": *first* "SOS" in Chapter 5]

Holiday/Travel Statement

If you the student have pre-existing plans to either travel out of the area during scheduled class times, you must inform me by **NO LATER THAN Monday, September 17, 2018**. Failure to do so will result in the forfeiture of any assignments that will come into question during your dates of absence.

Religious Holy Days

In accordance with Section 51.911, Texas Education Code, South Plains College will allow a student who is absent from class for the observance of a religious holy day to take an examination or complete an assignment scheduled for that day within seven (7) calendar days after the absence. Students are required to file a written notification of absence with each instructor within the **first fifteen (15) days of the semester** in which the absence will occur. Forms for this purpose are available in the Student Services Office along with instructions and procedures. "Religious holy days" means a holy day observed by a religion whose place of worship is exempt from property taxation under Section 11.20, Tax Code.

(Copied from current South Plains College Catalog)

Final Examination Policy

There will be a final examination for this course. ***All students are required to take this exam at the appointed time listed herein.*** Also, due to the insurance of outcomes assessment at the end of any semester, there will be no guarantee of exemption from the final exam for this course. ***If any exam is missed, then the final will replace ONE such exam upon notification before the exam is scheduled.*** All other exams missed will receive a grade of 0% or be handled at the Instructor's discretion. **If the final exam is missed by any student required to take such, the student will receive a 0% for the final and an "F" for the course!**

Equal Opportunity, Disability, and Diversity Statements

South Plains College strives to accommodate the individual needs of all students in order to enhance their opportunities for success in the context of a comprehensive community college setting. It is the policy of South Plains College to offer all educational and employment opportunities without regard to race, color, national origin, religion, gender, disability or age.

Levelland Campus– 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. For more information, call or visit the Disability Services Office in the Health & Wellness Center, 806-716-2577.

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.

Sexual Misconduct Confidentiality Statement

As a faculty member, I am deeply invested in the well-being of each student I teach. I am here to assist you with your work in this course. If you come to me with other non-course-related concerns, I will do my best to help. It is important for you to know, however, that all faculty members are mandated reporters of any incidents of sexual misconduct. That means that I cannot keep information about sexual misconduct confidential if you share that information with me.

Mr. Christopher Straface, the Director of Health & Wellness, can advise you confidentially as can any Counselor in the Health & Wellness Center. They can also help you access other resources on campus and in the local community. You can reach Mr. Straface by phone at 716-2563, by e-mail at cstraface@southplainscollege.edu, or by going to the Health & Wellness Center. You can schedule an appointment with a Counselor by calling 716-2529.

Key SPC Dates

October 12th – Fall Break

November 15th – Last Day to Withdraw from Classes

December 10th-13th – Finals Week



The “Course Fishing” Rule

This rule has been implemented for the Fall Semester of 2007 and is effective hereafter. As per House Bill 116 (Senate Bill 1231) of the Texas legislature, *all* students will be limited to a total of six (6) mid-semester withdrawals for their entire undergraduate academic career. A mid-semester withdrawal is one that occurs after the twelfth (12th) class day and is noted on the student’s transcript as a “W”, and upon the student receiving the sixth W, all future attempts to withdraw from a course mid-semester will be denied. As a result, a terminal course grade (A, B, C, D, or F) will be issued for the course in question. This does not include any withdrawals acquired by the student before the Fall Semester of 2007, so the count for each student under this rule is currently zero (0). **BE SURE OF YOUR INTENTIONS TO FINISH OUT THE COURSE BEFORE CONTINUING!**

Campus Concealed Carry

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, please refer to the SPC policy at:

(http://www.southplainscollege.edu/human_resources/policy_procedure/hhc.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.

Mr. Robert E. Plant, II
Fall 2018 Lecture Calendar
MATH 1342

Week	Week Day 1	Week Day 2
1 (8/27 to 8/31)	Introduction; Chapter1	2-2
2 (9/3 to 9/7)	Labor Day Holiday	2-3, 2-4
3 (9/10 to 9/14)	3-1, 3-2; SOS 2.1, 2.2	3-3, 3-4
4 (9/17 to 9/21)	Exam 1; SOS 3.1	4-1
5 (9/24 to 9/28)	4-2	4-3
6 (10/1 to 10/5)	4-4	4-5
7 (10/8 to 10/12)	Exam 2; SOS 4.1	5-1, 5-2
8 (10/15 to 10/19)	5-3, 6-1	8-1
9 (10/22 to 10/26)	8-2; SOS 5.1, 5.2	8-3
10 (10/29 to 11/2)	8-5	8-6
11 (11/5 to 11/9)	Exam 3; SOS 8.1, 8.2	9-1, 9-2
12 (11/12 to 11/16)	9-3	9-5
13 (11/19 to 11/23)	10-1; SOS 9.2	Thanksgiving Holiday
14 (11/26 to 11/30)	10-2	10-3
15 (12/3 to 12/7)	Exam 4; SOS 10	Q&A—Final Exam Review
16 (12/10 to 12/14)	FINAL EXAMINATION Wednesday, 12/12, 1:00-3:00 PM ORIGINAL CLASSROOM	

Mr. Robert E. Plant, II
TENTATIVE HOMEWORK CALENDAR
MATH 1342

Week	Week Day 1	Week Day 2
1 (8/27 to 8/31)	Read Chapter 1; Definitions	2-1: #3-24 (Every 3 rd)
2 (9/3 to 9/7)	Labor Day Holiday	2-2: #3-18 (Every 3 rd) 2-3: #3-27 (Every 3 rd)
3 (9/10 to 9/14)	3-1: #3-30 (Every 3 rd) 3-2: #5-40 (Every 5 th)	3-3: #3-30 (Every 3 rd) 3-4: #3-18 (Every 3 rd)
4 (9/17 to 9/21)	Exam 1	4-1: #5-40 (Every 5 th)
5 (9/24 to 9/28)	4-2: #3-30 (Every 3 rd)	4-3: #5-50 (Every 5 th)
6 (10/1 to 10/5)	4-4: #5-65 (Every 5 th)	4-5: #3-15 (Every 3 rd)
7 (10/8 to 10/12)	Exam 2	5-1: #3-36 (Every 3 rd) 5-2: #3-21 (Every 3 rd)
8 (10/15 to 10/19)	5-3: #3-30 (Every 3 rd) 6-1: #3-60 (Every 3 rd)	8-1: #3-12 (Every 3 rd)
9 (10/22 to 10/26)	8-2: #3-24 (Every 3 rd)	8-3: #3-21 (Every 3 rd)
10 (10/29 to 11/2)	8-5: #3-18 (Every 3 rd)	8-6: #3-6 (Every 3 rd)
11 (11/5 to 11/9)	Exam 3	9-1: #3-24 (Every 3 rd) 9-2: #3-21 (Every 3 rd)
12 (11/12 to 11/16)	9-3: #3-12 (Every 3 rd)	9-5: #3-24 (Every 3 rd)
13 (11/19 to 11/23)	10-1: #3-27 (Every 3 rd)	Thanksgiving Holiday
14 (11/26 to 11/30)	10-2: #5-35 (Every 5 th)	10-3: #9, #12, #17, #21
15 (12/3 to 12/7)	Exam 4	Q&A—Final Exam Review
16 (12/10 to 12/14)	FINAL EXAMINATION Wednesday, 12/12, 1:00-3:00 PM ORIGINAL CLASSROOM	

ACKNOWLEDGMENT OF RECEIPT

As a student in this course, I hereby acknowledge that I have received, read, and clearly understood the syllabus. Furthermore, I hold myself accountable for adhering to the expectations stated therein. I also acknowledge that it is my duty and responsibility to notify the instructor of all personal situations that affect my standing in this course before any occur. I am fully aware that any breach of said expectations and responsibilities on my part will result in any necessary consequences that the instructor has stated to me through the syllabus, and that any differences of opinion will be discussed with the instructor in a manner befitting of adults. Finally, in the event of a later dispute by me, I will refer to the syllabus and will, by my signature, forfeit any pursuit that is not backed by the syllabus.

Student's Printed Name

Date of Acknowledgment

Student's Signature



Instructor's Signature

Monday & Wednesday Schedule		Tuesday & Thursday Schedule	
<u>Class</u>	<u>Time</u>	<u>Class</u>	<u>Time</u>