

South Plains College
Common Course Syllabus: MATH 1342
Revised December 2019

Department: Mathematics, Engineering, and Computer Science

Discipline: Mathematics

Course Number: MATH 1342

Course Title: Statistical Methods

Available Formats: conventional 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 (Optional): *Elementary Statistics: Picturing the World*, Farber and Larson, 2019, 7th Edition, 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. (CH 1, 2, 4-9)
2. Recognize, examine and interpret the basic principles of describing and presenting data. (CH 2)
3. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics. (CH 3-5, 7-9)
4. Explain the role of probability in statistics. (CH 3-5, 7-9)

5. Examine, analyze and compare various sampling distributions for both discrete and continuous random variables. (CH 4, 5)
6. Describe and compute confidence intervals. (CH 6, 8)
7. Solve linear regression and correlation problems. (CH 9)
8. Perform hypothesis testing using statistical methods. (CH 7, CH 8, 9.1)

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: Because this is an online course, you have more responsibility to keep up with your assignments. Missing 5 assignments for any reason will be grounds for being dropped from the course.

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.

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.



Course Information Sheet - MATH 1342.151/1342.451 – Summer I 2020

Instructor: Denise Johansen

Office: (806)716-4632

Cell/Text: (513)227-0095

Email: djohansen@southplainscollege.edu

Virtual Office Hours:

Live Q&A on MWF 9-10am (<https://southplainscollege.zoom.us/j/95310239784>)
or individual Zoom appointment (schedule at <https://go.oncehub.com/denisej>)

Physical Textbook (Optional): *Elementary Statistics: Picturing the World*, Farber and Larson, 2019, 7th Edition, Pearson. ISBN-13: 9780134683416.

Supplies (Required):

- Calculator: I HIGHLY recommend a graphing calculator with statistics package; TI-83/84 are preferred, but other models will work. For other models, you will have to read your manual or look online to learn how the various statistics commands work. NOTE: You may NOT use Excel, a calculator program on your phone, and NOT a TI-89 nor TI-Nspire.
- MyStatLab access code: I recommend starting with the 14-day free trial to make sure you are going to stay in the class first, then you can buy the access code to finish the summer term. Purchase from MyMathLab.com (usually \$25 cheaper) or from SPC Bookstore (includes access to electronic version of textbook).

Technology Required:

Working, reliable internet access

Access to our Blackboard class. Login at <http://southplainscollege.blackboard.com>

MyStatLab website. Login through Blackboard

Gradescope.com website. I will create a free account for you here on Day 1, and you'll get a welcome email with login instructions.

Scanner or scanner app for your phone. Scannable by Evernote is a great app for this!

Computer, laptop, tablet, or phone with a camera for video.

Course Delivery: This course is an online course, so you will access course information and correspond with me through use of the internet. I use email, MyStatLab, Blackboard, Zoom, and Gradescope.com to deliver and manage this course. I hold virtual office hours using Zoom (schedule time with me at <https://go.oncehub.com/denisej>). I can also be reached by phone or text using my cellphone number (513-227-0095). If you have to leave a message, my response time is 1 business day or less.

Course Requirements: To maximize the potential to complete this course, a student should login to Blackboard EVERY day, use the MyStatLab button to login to MSL to read the required textbook sections, watch the required lecture videos and take notes, thoroughly complete all homework assignments, and prepare well for examinations. The three written exams must be proctored, and more details on this are given in the Course Evaluation section of this syllabus and under the References button in Blackboard. Additionally, students are expected to check their school email **daily** and respond to email communications promptly. **If you don't normally check your SPC email, make sure to set up your SPC account to forward mail to an account you do check.**

Learning Materials/Activities: To be successful in this course, you will use the following materials and complete the given activities for each section of the textbook that we will cover.

- Textbook reading – Read the section in your textbook, whether you use a physical book or the eText inside MyStatLab. As you read, you should write notes on any new vocabulary words (usually in boldface type), formulas, theorems, and calculator commands. The reading is probably your first introduction to the concepts.
- Explore assignment - Explore assignments for each section will be posted in MyStatLab under the Assignments button and will contain a link to the textbook section, video lectures, vocabulary/concept check questions, and sometimes applet animations, StatCrunch exercises, or graphing calculator videos. As you view the videos/animations, you should add any new information to your textbook notes and copy into your notes any examples worked for you in the video, just as if you were sitting in class with that instructor. The exploration assignment is like a guided practice—concepts are still very new, but you should be getting more familiar with them.
- Homework assignment – Homework assignments for each section will be posted in MyStatLab under the Assignments button and will contain questions that may be multiple choice or fill-in-the-blank, but are primarily open-ended questions for problems that you work out. The questions generally give you 3 chances to get the question right before marking the problem wrong. You will then have access to a Similar Question button that will give you a new question and 3 more chances to get the question right. You have unlimited attempts on homework questions, so if you are persistent, do your work on time, and learn from your mistakes, you can earn 100% on all homework assignments. Also, every homework question has a Question Help button in the top right corner that will walk you through the solution, show you a similar example, link to the textbook section, sometimes links to a video example, or gives you a button to Ask My Instructor which sends me an email with your question. The purpose of homework is to practice, practice, practice! This is where you actually are learning the concepts, not just watching someone else work problems.
- Discussion board assignment – Not for each section we cover, but these are Blackboard assignments for you to get to know other students in the class, look for uses of statistics in the real world, discuss strategies for solving statistical problems, and generally get help from me and each other.

Course Evaluation:

- The Explore average will be worth 5% of your grade.
- The homework average is worth 15% of your grade, and the lowest 3 homework grades will be dropped.

- There will be 9 online Quizzes (1 per chapter we cover) posted in MyStatLab under the Assignments button. You may prepare ONE 3"x5" handwritten notecard for your reference for each quiz, but other than that notecard and your calculator, each quiz is to be **completed on your own and without references**—no using your text, no Google, no Phone a Friend. The purpose of each quiz is to help you review the chapter and start to see the “bigger picture”, rather than just one section at a time. Quizzes are TIMED and help get you ready for the Exams. You have two attempts on each quiz (I HIGHLY recommend taking your first attempt early enough that you have time to review your errors before taking the quiz again), and only the highest of your two attempts will count in your average. The Quiz Average is worth 15% of your grade, and the lowest quiz grade will be dropped.
- There will be a cumulative final project posted on Gradescope.com on 6/29, worth 15% of your grade.
- There will be 5 required Discussion boards posted on Blackboard during the term, worth a total of 5% of your grade.
- There will be 3 proctored paper/pencil/calculator/notecard exams during the term, each worth 15% of your grade. For each of these exams, you are allowed ONE 3"x5" handwritten, front and back, notecard. The exams will be taken at Gradescope.com, must be proctored using Proctorio or your instructor on the dates listed in the course calendar, and will be timed at 2 hours. More information on Proctorio is available on Blackboard under the References button. You will need to arrange your school/life/work schedules to accommodate taking the exams at the specified times. If you do not, you will receive a grade of a 0 for that exam.
- **Late work:** Late work on Explore, Homework, and Quizzes will be accepted in MyStatLab with a 20% late deduction. This means that if an assignment has 10 questions, and you get 9 of them correct and on time, you earned a 90% on the assignment. If you get the same 9 of them correct, but even one day late, you have earned 80% of 90%, which is only 72%. PLEASE do your assignments on time; don't shoot yourself in the foot! Blackboard discussions and your comprehensive project will also be accepted with a 20% late deduction.

Grading Policy:

Explore average	5%
Homework average	15%
Quiz average	15%
Final project	15%
Discussion boards	5%
Exam 1	15%
Exam 2	15%
Exam 3	15%

Letter Grades:

90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
59% & below	F

How your work is graded:

- MyStatLab grades online assignments as a percentage based on how many parts of a question were answered correctly, and these grades are immediately included in your MSL class average and in your MSL Gradebook.
 - You can access the MSL Gradebook by clicking on the MyStatLab button in Blackboard, click on the MyLab and Mastering Course Home link, then click on the Gradebook button.
 - MSL Gradebook items should sync with the Blackboard Gradebook every hour.

- For the Project and Exams that I grade, I give a percentage of points based on how many parts of the question were answered correctly. For example, for a question about calculating a normal probability, I expect to see a drawing of a normal curve labeled correctly, the correct calculator command being used, the correct probability found, and a complete sentence stating your conclusion (if applicable).
 - You will take your exams at Gradescope.com and upload any pictures of your work there. I will grade exams and “publish” grades in Gradescope, then upload the grades into MyStatLab within 48 hours of their due dates, and MyStatLab will update your Bb Gradebook and current class average to include those scores.
 - The Project will be available for download from Gradescope.com on 6/29, and you will upload the .pdf scan of your project to Gradescope by 11:59pm, 7/2.

Response times for grading:

- Explore/Homework - Graded immediately by MyStatsLab, reviewed by me within 1 business day if you contact me with a specific question/issue.
- Quiz - Graded immediately by MyStatsLab, reviewed by me within 1 business day if you contact me with a specific question/issue.
- Discussion – Graded by me within 72 hours of due date.
- Project – Graded by me within 72 hours of due date.
- Exam - Graded by me within 48 hours of due date.

Last day to drop is Monday, June 22nd.

SPC School Holiday:

Friday, 7/3, Independence Day Holiday

Language: Please be respectful of others and use language that is appropriate to the workplace. Remember that you are addressing a group. Even though you don't see them, they will be reading. This means several things:

- Don't say/write things that you wouldn't say/write publicly (face-to-face).
- Don't address comments to individuals unless you want all to know what you are telling that person.
- Don't share confidential information. If you are quoting from something another person has sent you personally, ask their permission first.
- Read your message before you send it since once it is out there, you can't change it.

COURSE OUTLINE / CALENDAR*

Problems are assigned online for each section of the textbook that we cover. To access online assignments, you must have an access code (you can buy a code for MyMathLab/MyStatLab from the Bookstore or from Pearson directly with a credit card). Instructions for getting registered for the MSL part of our course are in the Getting Started button on Bb. Assignments have due dates, and you will lose 20% for work completed after the due date passes. To master the material and prepare for the exams, you **MUST** work problems!

* Assignments and deadlines are subject to change at instructor's discretion, and all changes will be emailed to the class and posted in Blackboard Announcements.

Date	Content	Assignments
Chapter 1 6/1	Orientation, Introduction to Statistics <ul style="list-style-type: none"> • Syllabus & Orientation • 1.1 – An Overview of Statistics 	Read Sections 1.1-1.3 MML Orientation MML Explore 1.1-1.3 MML Hwk 1.1-1.3
6/2		Bb Discussion 1 – Introduce Yourself Respond to Welcome Email Bb Discussion 2 – Sampling Methods MML Quiz 1 – Chapter 1 Due 11:59pm, 6/3
Chapter 2 6/3	Descriptive Statistics <ul style="list-style-type: none"> • 2.1 – Frequency Distributions and Their Graphs • 2.2 – More Graphs and Displays 	Read Sections 2.1-2.5 MML Explore 2.1-2.5 MML Hwk 2.1-2.5
6/4		MML Quiz 2 – Chapter 2 Due 11:59pm, 6/9
6/8		
	<ul style="list-style-type: none"> • 2.5 – Measures of Position 	

<p>Chapter 3 6/8</p> <p>6/9</p> <p>6/10</p> <p>6/11</p>	<p>Probability & Exam 1</p> <ul style="list-style-type: none"> • 3.1 – Basic Concepts of Probability and Counting • 3.2 – Conditional Probability and the Multiplication Rule • 3.3 – The Addition Rule • 3.4 – Additional Topics in Probability and Counting • Review for Exam 1 <p>• Exam 1 (Ch. 1-3) ← (Available on Gradescope.com from noon on 6/11 to noon on 6/12)</p> <p>Additional paper and pencil review with answer key posted on Bb.</p>	<p>Read Sections 3.1-3.4 MML Explore 3.1-3.4 MML Hwk 3.1-3.4 **MML Review Quizzes (Chapters 1-3) **MML Review Hwks</p> <p>**These assignments are optional, designed to show you where you need to focus your study for Exam 1, and worth up to 3 bonus points on the exam.</p> <p>MML Quiz 3 – Chapter 3</p> <p>Due 11:59pm, 6/11</p>
<p>Chapter 4 6/11</p> <p>6/15</p>	<p>Discrete Probability Distributions</p> <ul style="list-style-type: none"> • 4.1 – Probability Distributions • 4.2 – Binomial Distributions 	<p>Read Sections 4.1-4.2 MML Explore 4.1-4.2 MML Hwk 4.1-4.2</p> <p>MML Quiz 4 – Chapter 4</p> <p>Bb Discussion 3 – Stats in the Real World</p> <p>Due 11:59pm, 6/16</p>
<p>Chapter 5 6/15</p> <p>6/16</p> <p>6/17</p>	<p>Normal Probability Distributions</p> <ul style="list-style-type: none"> • 5.1 – Introduction to Normal Distributions and the Standard Normal Distribution • 5.2 – Normal Distributions: Finding Probabilities • 5.3 – Normal Distributions: Finding Values • 5.4 – Sampling Distributions and The Central Limit Theorem 	<p>Read Sections 5.1-5.4 MML Explore 5.1-5.4 MML Hwk 5.1-5.4</p> <p>MML Quiz 5 – Chapter 5</p> <p>Due 11:59pm, 6/18</p>

<p>Chapter 6 6/17</p> <p>6/18</p> <p>6/22</p>	<p>Confidence Intervals & Exam 2</p> <ul style="list-style-type: none"> • 6.1 – Confidence Intervals for the Mean (Large Samples) • 6.2 – Confidence Intervals for the Mean (Small Samples) • 6.3 – Confidence Intervals for Population Proportions • Review for Exam 1 • Exam 2 (Ch. 4-6) ← (Available on Gradescope.com from noon on 6/22 to noon on 6/23) <p>Additional paper and pencil review with answer key posted on Bb.</p>	<p>Read Sections 6.1-6.3 MML Explore 6.1-6.3 MML Hwk 6.1-6.3 **MML Review Quizzes (Chapters 4-6) **MML Review Hwks</p> <p>**These assignments are optional, designed to show you where you need to focus your study for Exam 2, and worth up to 3 bonus points on the exam.</p> <p>Bb Discussion 4 – What Kind of Interval is This?</p> <p>MML Quiz 6 – Chapter 6</p> <p>Due 11:59pm, 6/22</p>
<p>Chapter 7 6/23</p> <p>6/24</p>	<p>Hypothesis Testing with One Sample</p> <ul style="list-style-type: none"> • 7.1 – Introduction to Hypothesis Testing • 7.2 – Hypothesis Testing for the Mean (Large Samples) • 7.3 – Hypothesis Testing for the Mean (Small Samples) • 7.4 – Hypothesis Testing for Proportions 	<p>Read Sections 7.1-7.4 MML Explore 7.1-7.4 MML Hwk 7.1-7.4</p> <p>MML Quiz 7 – Chapter 7</p> <p>Due 11:59pm, 6/25</p>
<p>Chapter 8 6/25</p> <p>6/29</p>	<p>Hypothesis Testing with Two Samples</p> <ul style="list-style-type: none"> • 8.1 – Testing the Difference Between Means (Large Independent Samples) • 8.2 – Testing the Difference Between Means (Small Independent Samples) • 8.3 – Testing the Difference Between Means (Dependent Samples) • 8.4 – Testing the Difference Between Proportions 	<p>Read Sections 8.1-8.4 MML Explore 8.1-8.4 MML Hwk 8.1-8.4</p> <p>Bb Discussion 5 – What Kind of Test is This?</p> <p>MML Quiz 8 – Chapter 8</p> <p>Due 11:59pm, 6/30</p>

Chapter 9 6/30 7/1	Correlation and Regression <ul style="list-style-type: none"> • 9.1 – Correlation • 9.2 – Linear Regression • 9.3 – Measures of Regression and Prediction Intervals 	Read Sections 9.1-3 MML Explore 9. 1-3 MML Hwk 9. 1-3 MML Quiz 9 – Chapter 9 Due 11:59pm, 7/2
7/1 7/2	Cumulative Project & Review for Exam 3 <ul style="list-style-type: none"> • Cumulative Project (posted on Gradescope.com)← available on 6/29 • Review for Exam 3 <p>Additional paper and pencil review with answer key posted on Bb.</p>	Project Due 11:59pm, 7/2
7/6	Exam 3 <ul style="list-style-type: none"> • Exam 3 (Chapters 7-9)) ← (Available on Gradescope.com from noon on 7/5 to noon on 7/6) 	**MML Review Quizzes (Chapters 7-9) **MML Review Hwks **These assignments are optional, designed to show you where you need to focus your study for the Exam 3, and worth up to 3 bonus points on the exam. Due 11:59pm, 7/5

* Assignments and deadlines are subject to change at instructor's discretion, and all changes will be emailed to the class and posted in Blackboard Announcements.