

**South Plains College**  
**Common Course Syllabus: MATH 1324**  
**Revised August 2021**

**Department:** Mathematics, Engineering, and Computer Science

**Discipline:** Mathematics

**Course Number:** MATH 1324

**Course Title:** Mathematics for Business and Social Sciences

**Available Formats:** conventional, hybrid and internet

**Campuses:** Levelland, Reese, and Dual Credit

**Course Description:** The application of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value.

**Prerequisite:** Minimum score of 350 on the TSIA1, minimum score of 950 on the TSIA2, a diagnostic score of 6 on the TSIA2, TSI-exempt status, a successful completion with a grade of 'C' or better in MATH 0320, or successful completion of NCBM-0114.

**Credit:** 3 **Lecture:** 3 **Lab:** 1

**Textbook:** *Mathematics with Applications in the Management, Natural, and Social Sciences*, Lial, Hungerford, Holcomb, and Mullins, 2019, 12<sup>th</sup> Edition, Prentice Hall/Pearson Education

**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. Apply elementary functions, including linear, quadratic, polynomial, rational, logarithmic, and exponential functions to solving real-world problems.
2. Solve mathematics of finance problems, including the computation of interest, annuities, and amortization of loans.

3. Apply basic matrix operations, including linear programming methods, to solve application problems.
4. Demonstrate fundamental probability techniques and application of those techniques, including expected value, to solve problems.
5. Apply matrix skills and probability analyses to model applications to solve real-world problems.

**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/Student Engagement Policy:** Attendance and engagement are the most critical activities for success in this course. The instructor maintains records of the student's attendance and submission of assignments throughout the semester. The student is expected to attend at least eighty percent (80%) of the **total** class meetings **and** submit at least eighty percent (80%) of the **total** class assignments to have the best chance of success. If the student fails to meet these minimum requirements, the instructor may remove the student from the class with an X, upon their discretion, to help the student from harming their GPA. If the student can not receive an X, the instructor will assign an F.

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:** It is the policy of South Plains College that as a condition of on-campus enrollment, all students are required to engage in safe behaviors to avoid the spread of COVID-19 in the SPC community. There will be no requirement for face coverings at any location on any South Plains College campus or classroom. Faculty, staff, or students may continue to wear a mask voluntarily, but there will be no requirements for face coverings in any circumstance. If you are experiencing any of the following symptoms please do not attend class and either seek medical attention or get tested for COVID-19.

- Cough, shortness of breath, difficulty breathing
- Fever or chills
- Muscles or body aches
- Vomiting or diarrhea
- New loss of taste and smell

Please also notify DeEtte Edens, BSN, RN, Associate Director of Health & Wellness, at [dedens@southplainscollege.edu](mailto:dedens@southplainscollege.edu) or 806-716-2376.

**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 rcanon@southplainscollege.edu](mailto:rcanon@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 1324 - Mathematics for Business and Social Sciences (Online) Fall 2023

**Instructor:** Jason Groves **Office:** 2032 (LDTC)  
**e-mail:** jgroves@southplainscollege.edu  
**Phone:** 806-716-2739  
**Office Hours:** Monday - Thursday: 12:30 pm - 2 pm, Friday 9 am - Noon  
or by appointment

*Note that students are responsible for knowing the policies of SPC as an institution. This information is available in the student handbook. Policies specific to the math department are found in the common course policies preceding this document. Below are the course policies specific to this course section and this instructor.*

**Prerequisites:** Instructor's permission and a status of "college ready" in math.

**Materials:** The following materials are required for this course

**Writing:** Pencil and paper are required for taking notes during videos, while reading the text, or during any virtual/remote meetings, as well as for completing written assignments. Generally, I recommend having a spiral notebook dedicated to notes and solving problems for this class, which makes it easy to email pictures of problems and ask questions about the work.

**Textbook:** We will be using Mathematics with Applications in Business and Social Sciences in this class.

**Calculators:** You will need a calculator with  $e^x$  and  $\ln$  keys. These can be found on scientific calculators (inexpensively obtained from Wal-Mart or any other big-box store) or graphing calculators. (NOTE: graphing calculators are nice, but not required for this course.) Online options exist such as Wolfram Alpha ([wolframalpha.com](http://wolframalpha.com)), Desmos ([www.desmos.com](http://www.desmos.com) Desmos also has smartphone apps) or GeoGebra ([www.geogebra.org](http://www.geogebra.org)). Smartphone apps such as Panecal or ClassCalc are also available for low cost (or free). All are great for doing homework or studying.

**Please note that computer software and mobile apps will not be allowed on exams.**

**Computer:** Access to a computer with stable internet connection will be required for viewing course materials as well as using other software (see "Calculators" above and "Blackboard" below). The use of Chromebooks or other computers running the Chrome Operating System (ChromeOS) is discouraged, as ChromeOS is not always compatible with the software we may be using during this course. If you do not have a computer you may find success using mobile devices in some cases, and you also have access to suitable computers via the computer labs found at every SPC campus.

**Blackboard:** Blackboard (accessible via the SPC website) will be used as a central hub for the course. You can find this syllabus, and all other course materials, as well as assignments, grading rubrics, etc. You should be checking Blackboard daily for announcements and updates, and to access the homework. Blackboard utilizes students' SPC email, thus you should also be checking your SPC email regularly.

**Hawkes Learning:** We will be using Hawkes Learning for you to practice concepts and do many assignments. Instructions for registration/login are available on Blackboard. Make sure you have full access as soon as possible.

**Gradescope:** You will need to submit written documents in this course, which will do using the Gradescope app. You will need access to a smartphone for this app. If you do not have a smartphone, you will need access to a scanner to scan your documents and upload them to Gradescope from your computer.

**Assessment:** Grading will be done according to the standard 10 percent scale (i.e. 100% - 90% is an A, etc.) with assignments weighted as follows:

Homework	10%
Discussions	15%
Case Studies	15%
Tests	40%
Final Exam	20%

Grades are calculated by taking the average of all of the grades in that assessment type, and then weighing them according to the proportions given above. Details of each assessment type are given below.

**Class Attendance:** This course is an asynchronous (not at the same time) online course, so there is no formal class to attend. Attendance is instead managed by participation in the course. Students should be involved with working the course material as often as possible in order to develop mastery of the topics presented. As a benchmark, students should expect to spend at least 15 hours per week on this course to complete it successfully. Most students usually break this down into 3 hours per day, 5-6 days per week working on this course (note that the 3 hours do not have to be continuous, but that amount of time should be accumulated each day for best results.) If a you miss more than 5 assessment items (quizzes, case studies, exams), you may be dropped from the course with an X or an F.

If a you wish to drop the course on your own (which gives a mark of W) there are instructions in the Syllabus section of the Blackboard course.

It is the policy of the South Plains College math department that online math courses cannot be repeated, regardless of success in or completion of the course. Therefore if a student fails, drops, or is administratively dropped, they will not be able to repeat the course online, and must repeat the course in a traditional classroom setting.

Students should plan their work time at the beginning of each week so that they are committed in advance to the completion of their assignments. It has been well documented that spreading out study and practice over a longer period of time helps to retain knowledge, create new connections, and gain additional insights into the material. This can also help with quizzes (see below). **Make arrangements now and plan ahead for what you will do in the event that your own computer or internet connection becomes unavailable or unreliable.**

**Homework:** Daily homework is essential to developing mastery over the topics presented in this course. All homework assignments are available from the first day of classes. Homework problems may be attempted an unlimited number of times in order to achieve mastery over each lesson. Due dates are fixed, but homework assignments may be revisited to improve skills or review topics. Each lesson has embedded within it various videos reading material to help students understand the concepts, which they can then apply directly to the homework. Videos may also be included on blackboard to help students learn and reinforce the material. A primary use of the homework is to start building an intuition regarding each of the topics discussed in this course. This intuition can then be used to gain insights into material in future classes, so it is essential that students achieve as much mastery over the topics as possible. For best results, students should keep a notebook of all correctly worked homework problems to use as a study guide for quizzes, exams, and projects, as well as asking questions of the professor via email or office hours. Homework assignments close at the due date.

**Case Studies:** Case Studies are assignments found in Blackboard. All work must be shown, and all explanations of steps or interpretations of results must be given in complete sentences. Due dates are given on the course calendar as well as on Blackboard, and late work will not be accepted (student will receive a 0).

**Exams:** There are four midterm exams and one final exam. All exams are to be taken in person. For each exam, a survey will go out 2-3 weeks prior to the exam date for students to choose when they will take the exam. Please note the following:

- All students who reside within 75 miles of any SPC campus must appear in person to take exams.
- All students who live farther than 75 miles from any SPC campus are responsible for finding their own proctor for exams (a form is available in the Course Resources with instructions).
- If you are unable to appear for an exam, it is your responsibility to coordinate with me an alternative *before* the due date of the exam.

**Dual Credit Students** will test in their classrooms with their faculty or staff facilitator. This information should be provided to me via the introductory survey.

Note that the primary driver of the exam grade is the written work submitted, not just the answers.

**Projects:** There is one project that will be assigned during the finance unit. It counts as an exam for the purposes of grading.

**Final Exam:** The final exam is comprehensive, and a required part of the course. Failure to take the final exam results in an automatic F. You will need to take this exam in person. The Final Exam must be taken by Tuesday, December 12

**Email:** The email at the header of the syllabus is the best way to get into contact with the me. This email is also available on Blackboard in the “Send Email” tool link on the sidebar of the Blackboard course. This should be used as often as necessary to ask questions, schedule appointments for office hours (physical or virtual) or turn in written assignments in the event that blackboard is down. You may also email incomplete parts of projects and case studies in order to get feedback from me on how to proceed.

All emails should be formatted with the course number and section, and an adequate heading (i.e. “Math 1324-151 project questions” or “Math 1324-151 Chapter 3 Case Study”). Failure to format the subject line properly may result in emails being caught by SPC’s email filter. Neither I nor SPC is responsible for emails lost due to improper formatting.

Be sure to confirm that all relevant attachments are sent with the email and that the body of the email contains all relevant information for that correspondence.

**Submitting Written Work:** Whether done via email or through the assignments given on blackboard, students need to follow guidelines to maximize the effectiveness of their submissions. All submissions should be formatted with the course and section number, *your* first initial and last name, and the assignment. For example, if I were to submit an attachment for the chapter 3 case study, the file would be named: 1324151-jgroves-casestudy3. As an additional measure, it is encouraged that you write your name at the top of each page of written work submission.

**Showing Work:** In all written assignments submitted (exam work, case studies, projects) work of one kind or another needs to be shown in order for the instructor to properly assess how much of the content has been properly learned and implemented. *When submitting written work any question or component that does not have work associated with it will be given reduced (or no) credit.* Students may view the document titled “Mathematical Writing” in the syllabus content area for specific examples of properly showing work.

**Civility in the classroom:** Students are expected to assist in maintaining a classroom environment that is conducive to learning. Given that this is an online course, “the classroom” is defined as any set of interactions that students will have with one another (primarily discussion boards). Students who are found to be intentionally hurtful or disrespectful, or repeatedly detract from the focus of the discussion boards will have their grade in this category penalized (up to zero credit for a discussion assignment), and may be administratively dropped from the course (with an X or F) for creating a hostile learning environment.

It is important to note the role that students play in their own mathematical education. Just as everybody has had (and continues to have) different life experiences, we all have different mathematical experiences as well. And while it is important that the systems and institutions that people interact with (of which this class is one) are impartial, to expect such from human beings borders on impossible. To that end, it is imperative that students give space for their classmates to come into the material from where they are, and that we seek to understand each other. The most important capacity students can give each other is the space to be wrong, and to be gently guided out of misconceptions or errors. Both instructor and student are not just the product of their own hard work and thinking, but also of what their environments (both past and present) allowed them to work or think hard about.

Students in disagreements over results or processes must disagree professionally. Blanket statements (“you’re wrong” or “that doesn’t work”) cannot be given without explicit evidence, and should still be framed more in terms of your own understanding: phrases like “I think the problem is asking for...” or “did you consider...” are more appropriate phrases to use when correcting and/or helping other students. People cannot escape their biases, but everybody can recognize that people do not always look at a problem the same way. As the saying goes: “Above all else, be kind.”

**Honesty:** “Scholastic dishonesty” includes but is not limited to cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, and any act designed to give unfair academic advantage to the student. Incidents of academic dishonesty will be promptly reported and dealt with.

The ethics and appropriateness of the use of apps such as photomath on quizzes are discussed in one of the first discussion assignments. That being said, it is the policy of this class that use of these apps is strictly prohibited on all quizzes and exams.

**Student Resources:** Students have access to tutoring at all SPC campuses, specifically in room M116 in the Math and Engineering building on the Levelland campus, or Building 2 (rooms 206 and 208) on the Reese campus. The Lubbock Center’s tutoring is available in the common study room near the front of the building.

To schedule a face-to-face or virtual meeting with SPC tutors, go to the SPC webpage, click Student Services, and click on Tutoring. There students may choose at which center they wish to have tutoring or if they wish to have a virtual session (face-to-face sessions only require an open spot, while virtual sessions require 4 hours notice). Click the Booking link and log in with SPC credentials. Students can then choose the subject and tutor.

Students also have access to the use of Tutor.com for a few hours each week. Students can access Tutor.com directly from the blackboard homepage, or from the Help section of this Blackboard course.



Week	Sections Covered	Due Dates (Assignments due Tuesday by 11 pm unless otherwise indicated)
Week 1 8/28 - 8/31	Lessons 1.1, 1.2, 1.3	Introductory Survey (due Wed. 8/30)
Week 2 9/4 - 9/7	Lessons 1.4, 1.5, 1.6	Certify: 1.1 - 1.3 Exam 1 sign up due Friday
Week 3 9/11 - 9/14	Lessons 2.1, 2.2, 2.3 Case Study: Interpolation and Extrapolation Exam 1: 1.1 - 1.6	Certify: 1.4 - 1.6
Week 4 9/18 - 9/21	Lessons 6.1, 6.2, 6.3 Case Study: Flow Problems	Certify: 2.1 - 2.3 Case Study: Interpolation and Extrapolation Exam 2 sign up due Friday
Week 5 9/25 - 9/28	Lessons 6.4, 6.5, 6.6 Case Study: Airline Routes Exam 2: 2.1 - 2.3, 6.1 - 6.3	Certify: 6.1 - 6.3 Case Study: Flow Problems
Week 6 10/2 - 10/5	Lessons 7.1, 7.2, 7.3	Certify: 6.4 - 6.6 Case Study: Airline Routes
Week 7 10/9 - 10/12	Lessons 7.4, 7.5 Case Study: Diet Problem	Certify: 7.1 - 7.3 Exam 3 sign up due Friday
Week 8 10/16 - 10/19	Lessons 3.1, 3.2, 3.3, 3.4 Case Study: Maximizing Functions Exam 3: 6.4 - 7.5	Certify: 7.4, 7.5 Case Study: Diet Problem
Week 9 10/23 - 10/26	Lessons 3.5, 3.6, 3.7	Certify: 3.1 - 3.4 Case Study: Maximizing Functions
Week 10 10/30 - 11/2	Lessons 3.8, 3.9	Certify: 3.5 - 3.7
Week 11 11/6 - 11/9	Lessons 4.1, 4.2, 4.3, 4.4	Certify: 3.8, 3.9 Exam 4 sign up due Friday
Week 12 11/13 - 11/16	Lessons 5.1, 5.2, 5.3, 5.4 Finance Project Exam 4: 3.1 - 4.4	Certify: 4.1 - 4.4
Week 13 11/20 - 11/23	Lessons 8.1, 8.2, 8.3, 8.4 Thanksgiving Break: 11/22 - 11/24	Certify: 5.1 - 5.4
Week 14 11/27 - 11/30	Lessons 8.5, 8.6, 8.7	Certify: 8.1 - 8.4 Finance Project due 11/27
Week 15 12/4 - 12/7	Review Week	Certify: 8.5 - 8.7 Final Exam sign up due Friday
Week 16 12/11 - 12/14	Final Exam Must be taken no later than 12/12 at 10 am (times: 12/11 @ 5 pm, 12/11 @ 7:15 pm, 12/12 @ 10 am)	

NEW TEXT!  
New system via Hawkes

Notes

2. All exams are in person.
3. Finance is a project (fix finance project worksheet.)
4. Chapter 9 removed (trial semester)
5. Prepare a Case Study for Flow problems (for the first half of chapter 6?)

Case Study: Interpolation and Extrapolation  
Case Study: Life Expectancy

Exam Times  
Monday, 5:20 pm / 7 pm  
Tuesday 9 am

Case Study: Flow Problems

Dual Credit: coordinate individually with facilitators

Case Study: Airline Routes  
Case Study: Food Chains

Dual Credit Enrollment

Case Study: Diet Problem

Case Study: Markov Chains?

Case Study: Maximizing Functions

Remote Proctors

Finance Project (due ??)