

South Plains College
Common Course Syllabus: MATH 1324
Revised December 2022

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, Downtown Center, 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 Business and Social Sciences*, Hawkes Learning, 2022, Hawkes Learning

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.

Student Code of Conduct Policy: Any successful learning experience requires mutual respect from the student and the instructor. Neither the instructor nor the student should be subject to others' rude, disruptive, intimidating, aggressive, or demeaning behavior. 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.

South Plains College policies concerning diversity, disabilities, non-discrimination, Title IX Pregnancy Accommodations, and Campus Concealed Carry Statements can be found here: <https://www.southplainscollege.edu/syllabusstatements/>.

South Plains College policies, return to campus plan, and protocols regarding COVID-19 can be found here: <https://www.southplainscollege.edu/emergency/covid19-faq.php>.

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.

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	5%
Quizzes	15%
Discussions	10%
Case Studies	20%
Tests	30%
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. To account for the lack of a formal Lecture/Lab setting, to achieve the same result, students should expect to spend at least 15 hours per week on this course to complete it successfully. Successful 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 the topic, and have a due date of the end of the term to allow unlimited practice and improvement. Each homework assignment has embedded within it various videos and interactive figures to help students understand the concepts, which they can then apply directly to the homework. Unlimited repetition allows for self-assessment and mastery. 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. Homework assignments close at the due date.

Quizzes: Quizzes will be given weekly in order to provide low-level assessment of related 'chunks' of material learned throughout the week. Quiz problems are taken from the exact same pool of problems as the homework assignments. Problems are chosen randomly from the pool, but all topics in a quiz have their own pool, so students will all be tested directly on the material covered that week. Students have 100 minutes

to take a quiz, and it must be done in one sitting. They may be taken up to two times, and MyMathLab will record the better result of the two attempts. Quizzes are not dropped and cannot be made up.

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 70 miles of any SPC campus must appear in person to take exams.
- All students who live farther than 70 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. 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 Wednesday, May 10

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.

	Sections
Week 1 1/17 - 1/20	Ch. 0
Week 2 1/23 - 1/27	1.1, 1.2, 1.3
Week 3 1/30 - 2/3	1.4, 1.5, 1.6 Exam 1: 1.1 - 1.6
Week 4 2/6 - 2/10	2.1, 2.2, 2.3
Week 5 2/13 - 2/17	6.1, 6.2, 6.3 Exam 2: 2.1 - 2.3, 6.1 - 6.3
Week 6 2/20 - 2/24	6.4, 6.5, 6.6
Week 7 2/27 - 3/3	7.1, 7.2, 7.3
Week 8 3/6 - 3/10	7.4, 7.5 Exam 3: 6.4 - 7.5
3/13 - 3/17	Spring Break
Week 9 3/20 - 3/24	3.1, 3.2, 3.3, 3.4
Week 10 3/27 - 3/31	3.5, 3.6, 3.7
Week 11 4/3 - 4/7	3.8, 3.9
Week 12 4/10 - 4/14	4.1, 4.2, 4.3, 4.4 Exam 4: 3.1 - 4.4
Week 13 4/17 - 4/21	5.1, 5.2, 5.3, 5.4
Week 14 4/24 - 4/28	8.1, 8.2, 8.3, 8.4
Week 15 5/1 - 5/5	8.5, 8.6, 8.7
Week 16 5/8 - 5/12	Final Exam Must be taken no later than 5/10 at 5pm