**South Plains College**
**Common Course Syllabus: MATH 0324/1324**
**Fall 2020**

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

**Discipline:** Mathematics

**Course Number:** MATH 0324/1324

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

**Available Formats:** conventional/flex

**Campuses:** Levelland and Reese

**Course Description:** Math0324 is to be taken concurrently with MATH 1324. Background topics which are necessary for a student to successfully complete MATH 1324 will be covered, with an emphasis on fractions, factoring polynomials, functions, exponents, and operating with radical expressions. Math 1324: 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 340 on the TSIA, or a successful completion with a grade of 'C' or better in MATH 0315.

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

**Textbook:** *Mathematics with Applications in the Management, Natural, and Social Sciences*, Lial, Hungerford, Holcomb, and Mullins, 2019, 12th 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 Policy:** Attendance and effort are the most important activities for success in this course. The instructor maintains records of the student's engagement throughout the semester. The student will be allowed to miss twenty percent (20%) of class assignments for the semester, ***for any reason***. Should this number be exceeded, the instructor has the right to drop the student with a grade of F or an X, depending on the instructor's discretion.

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:** Should be provided by the Vice-President of Student Services over email.

**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 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 0324/1324.C201 Math for Business and Social Sciences (CoReq)**
**TR 2:30 – 4:15pm**
**Fall 2020**

**Instructor:** Mrs. Morgan Groves
**Email:** mgroves@southplainscollege.edu
**Office:** 223F – Reese Building 2
**Office Phone:** 716-2735

**Office Hours:** MW 1:15pm – 2:45pm
TR 8:30am – 10:00am ***(Virtual)***
F 10:30am – 12:30pm
(or by appointment)

**Course Structure:** This is a hybrid/flex course. This course is 2 days per week where each student will attend a lecture in person on one day and virtually attend the lecture the next class day each week. There is a survey each student needs to take prior to classes starting to inform the instructor which day each week they would prefer to attend lecture face to face, if a preference exists. This survey can be found on Blackboard. Attendance for virtually attending students is still taken and counts!

**Textbook:** This section does NOT require you to purchase a physical textbook. All resources are online through MyMathLab.com (the online homework system) or in your class notes found on Blackboard. You can purchase a physical copy of the book below if you desire, but an electronic copy is available online after you gain access to MML.

**Course Requirements/Materials:** To maximize the potential to complete this course, a student should attend all class meetings, take notes and participate in class, and complete all homework assignments and examinations including the final exam in the allotted time. All students are expected to have reliable internet access, a reliable laptop or tablet, a printer, and either a scanner or a smart phone for submitting PDF documents. Students will also need to purchase the access to MyMathLab after the 14-day free trial period ends.

| **Grading Policy:** | | **Grading Scale (0324):** | | **Grading Scale (1324):** | |
|---|---|---|---|---|---|
| Daily Work (HW, quizzes, labs) | 10% | 90-100% | A | 90-100% | A |
| Exams (8 total) | 70% | 80-89% | B | 80-89% | B |
| Comprehensive Final Project | 20% | 70-79% | C | 70-79% | C |
| Bonus Tests | 5% | **65-69%** | D | 60-69% | D |
| | | Below 60% | F | Below 60% | F |

The MATH 0324 final grade is at the discretion of the instructor. If you want to know your 0324 grade, you may schedule an appointment with the instructor to discuss it in her office.

****Note: Students must justify answers or show work on all problems to receive full credit.*

**Homework:** All homework assignments will be on MyMathLab, an online homework system (see instruction page for directions on how to register). Homework is to be completed by the due dates posted on each assignment. No late homework will be accepted. The use of any math solving apps/programs (i.e. PhotoMath, etc.) is strictly prohibited and can result in academic dishonest proceedings. All work in this class must be your own!!

**Tests:** There will be a total of 8 exams in this course. No notes/homework/textbooks will be allowed on ANY exam. All exams are expected to be completed in the allotted class time, no exceptions. No exam grades will be dropped. Exam corrections are for your own learning well-being and will not be graded but are expected to be completed after each exam is returned. It is in your best interest to save ALL graded documents until your final grade is assigned at the end of the term.

Exams will be given in two sittings if the class size is too large to have all students present at the same time. You will be given the opportunity to sign up for one of the time slots for each exam. *This policy can change as we learn what works best for this class.*

**Final Project:** In lieu of a final exam, there is a final project that will be assigned covering all major topics from this course. You will have no less than 1 week to complete the project and turn it in. No late submissions will be accepted. The project should be entirely your own work. You cannot use the help from tutors, other students, or other instructors besides the instructor for this section of this course (Mrs. Groves). The project will have more directions to come later in the semester.

**Remind:** I like to utilize a free app called Remind. You can download it on your phone. I will use it to send reminders to do you help keep you on track. You can also message me through the app to ask for help and to easily send me your questions. It is a quick chat app that doesn't require us to share phone numbers. I highly recommend every student download this app and get into the course I created for us this term. This app will often be used for your Attendance Checks, also.

**Class Name: Math 1324 Coreq – Fa2020**
**Class code: @math1324co**

**Bonus Tests:** There are weekly bonus tests on MyMathLab. If you complete these tests, you can earn up to 5 percentage points added to your final grade. These tests are optional but they are timed and they do expire at the end of each week (Saturday night at 11:59pm). The average of your bonus test scores will determine the number of points added to your final average (i.e. If you average 80% on the bonus tests, then you will be awarded 80(0.05) = 4 points to your final average.) Any bonus test you skip will be scored as a 0.

**Late work:** Late work is not accepted. If you do not turn in an assignment on time, you will receive a zero.

**Make-up:** Make-up work is given at the discretion of the instructor. NO make-up quizzes or tests are given without prior notification AND proper documentation. If you are absent from class, have given prior notification and proper documentation of your absence, you MUST make arrangements to take the quiz or exam BEFORE the next class period. Students who do not take quizzes or exams in-class, early or late, forfeit the right to attempt any extra credit on that quiz or exam.

**Class Notes:** The class notes (outline) will be posted on Blackboard for you to print. It is the responsibility of the student to bring the notes to class everyday. Be sure to look at the tentative calendar to see what topics we will cover next.

**Calculators:** There will be times throughout the year when students will need a graphing calculator to complete an assignment. This course is taught under the assumption that each student owns a graphing calculator. I recommend a TI 84 series calculator. TI-Nspires are NOT recommended unless you are an expert at using them, as the instructor will be of little help. ***There are no calculators allowed at all until unit 3.***

**Class Rules:**

- Be on time and ready to learn.
- Use only pencil for all assignments.
- Students are not permitted to use electronic devices, other than a calculator, in class. **Put the cell phones away!!**
- During testing, all cell phones should be placed on SILENT or turned off, and all smart watches need to be removed and placed on the floor face-down to the left of your seat. Any student who leaves the classroom for any reason (bathroom, phone call, etc.) during an exam will not be allowed to continue the exam upon their return. Once you leave the classroom during an exam, you are done.
- Adhere to the requirements of the Student Code of Conduct.
- ***If you are joining the class through virtual means, please keep your microphone on mute until you have a question.***

| Tentative Calendar for Math 0324/1324 Fall 2020 | | | | |
|---|---|---|---|---|
| **Week** | **Day/Type** | **Date** | **Topic** | **Bonus Test** |
| 1 | Tuesday Live | Aug 25 | Syllabus, Assessment,<br>1.1: Integer Rules, Fraction Multiplication & Division | 1 |
| | Tuesday Virtual | Aug 25 | 1.2: Fraction Addition & Subtraction, Order of Operations | |
| | Thursday Live | Aug 27 | 1.3: Exponent Rules & Radicals | |
| | Thursday Virtual | Aug 27 | 1.4: Polynomials: Add, Subtract, Multiply<br>Radicals: Add, Subtract<br>Factoring: GCF, Trinomials | |
| 2 | Tuesday Live | Sept 1 | 1.5: Factoring with Leading Coefficient not 1<br>Special Products | *2* |
| | Tuesday Virtual | Sept 1 | 1.6: Factoring Summary | |
| | Thursday Live | Sept 3 | **Exam 1** | |
| | Thursday Virtual | Sept 3 | 2.1: Rational Expressions & Equations | |
| 3 | Tuesday Live | Sept 8 | 2.2: Solving Linear and Absolute Value Equations | 3 |
| | Tuesday Virtual | Sept 8 | 2.3: Solving by Factoring, Quadratic Formula | |
| | Thursday Live | Sept 10 | 2.4: Solving by Square Root Property, Complete the Square | |
| | Thursday Virtual | Sept 10 | 2.5: Solve Rational Equations | |
| 4 | Tuesday Live | Sept 15 | Unit 2 Lab | 4 |
| | Tuesday Virtual | Sept 15 | Review (no assignment) | |
| | Thursday Live | Sept 17 | **Exam 2** | |
| | Thursday Virtual | Sept 17 | 3.1: Graphs and Equations of Lines | |
| 5 | Tuesday Live | Sept 22 | 3.2: Functions | 5 |
| | Tuesday Virtual | Sept 22 | 3.3: Linear Business Applications | |
| | Thursday Live | Sept 24 | 3.4: Linear Inequalities | |
| | Thursday Virtual | Sept 24 | Review – no new assignment | |
| 6 | Tuesday Live | Sept 29 | **Exam 3** | 6 |
| | Tuesday Virtual | Sept 29 | 4.1: Quadratic Functions and Applications | |
| | Thursday Live | Oct 1 | 4.2: Polynomial Functions | |
| | Thursday Virtual | Oct 1 | 4.3: Rational Functions | |
| 7 | Tuesday Live | Oct 6 | **Exam 4** | 7 |
| | Tuesday Virtual | Oct 6 | 5.1 Exponential Functions | |
| | Thursday Live | Oct 8 | 5.2: Exponential Applications | |
| | Thursday Virtual | Oct 8 | 5.3: Logarithmic Functions | |
| 8 | Tuesday Live | Oct 13 | 5.4: Exponential & Logarithmic Equations & Applications | 8 |
| | Tuesday Virtual | Oct 13 | Review – no new assignment | |
| | Thursday Live | Oct 15 | **Exam 5** | |
| | Thursday Virtual | Oct 15 | 6.1: Simple & Compound Interest (Simple Interest Only) | |

| Week | Day/Type | Date | Topic | Bonus Test |
|---|---|---|---|---|
| 9 | Tuesday Live | Oct 20 | 6.1: Simple & Compound Interest (Compound Interest Only) | 9 |
| | Tuesday Virtual | Oct 20 | 6.2: Future Value of an Annuity | |
| | Thursday Live | Oct 22 | 6.3: Present Value of an Annuity | |
| | Thursday Virtual | Oct 22 | Unit 6 Lab | |
| 10 | Tuesday Live | Oct 27 | **Exam 6** | 10 |
| | Tuesday Virtual | Oct 27 | 7.1: Systems of Two Linear Equations | |
| | Thursday Live | Oct 29 | 7.2: Gauss-Jordan Elimination (GJE) | |
| | Thursday Virtual | Oct 29 | 7.3 - 7.4: Direct Translation & Word Problems, Applications of Systems | |
| 11 | Tuesday Live | Nov 3 | 7.5: Products and Inverses of Matrices | 11 |
| | Tuesday Virtual | Nov 3 | 7.6: Applications of Matrices – Leontief Input-Output Models | |
| | Thursday Live | Nov 5 | Unit 7 Lab | |
| | Thursday Virtual | Nov 5 | Review – no new assignment | |
| 12 | Tuesday Live | Nov 10 | **Exam 7** | 12 |
| | Tuesday Virtual | Nov 10 | 8.1: Graphing Linear Inequalities<br>Linear Programming: Graphical Method | |
| | Thursday Live | Nov 12 | 8.2: Linear Programming: Applications | |
| | Thursday Virtual | Nov 12 | 8.3: Simplex Method: Maximization | |
| 13 | Tuesday Live | Nov 17 | 8.4: Maximization Applications | 13 |
| | Tuesday Virtual | Nov 17 | 8.5: Duality Method: Minimization with Applications | |
| | Thursday Live | Nov 19 | 8.6: Simplex Method: Nonstandard Problems | |
| | Thursday Virtual | Nov 19 | 9.1: Introduction to Probability, Expected Value | |
| 14 | Tuesday Live | Nov 24 | **Exam 8 – CANNOT TAKE VIRTUALLY!** | 14 |
| | Tuesday Virtual | Nov 24 | 9.2: Markov Chains | |
| | Thursday Live | Nov 26 | **Thanksgiving Break** | |
| | Thursday Virtual | Nov 26 | **Thanksgiving Break** | |
| 15 | Tuesday Live | Dec 1 | Review – No new assignment | none |
| | Tuesday Virtual | Dec 1 | Unit 9 Lab | |
| 15 | Thursday Live | Dec 3 | Final Project | none |
| | Thursday Virtual | Dec 3 | Final Project | |
| **16** | **Tuesday Live** | **Dec 8** | **Final Project Due 12pm** | **none** |

Last Day to Drop: November 19th