

**South Plains College**  
**Common Course Syllabus: MATH 1325**  
**Fall 2020**

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

**Discipline:** Mathematics

**Course Number:** MATH 1325

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

**Available Formats:** conventional/flex and internet

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

**Course Description:** This course is the basic study of limits and continuity, differentiation, optimization and graphing, and integration of elementary functions, with emphasis on applications in business, economics, and social sciences. This course is not a substitute for MATH 2313 or 2413, Calculus I.

**Prerequisite:** Successful completion with a grade of 'C' or better in MATH 1324 or MATH 1314.

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

**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:** None

**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 calculus to solve business, economics, and social sciences problems.
2. Apply appropriate differentiation techniques to obtain derivatives of various functions, including logarithmic and exponential functions.
3. Solve application problems involving implicit differentiation and related rates.
4. Solve optimization problems with emphasis on business and social sciences applications.
5. Determine appropriate technique(s) of integration.

6. Integrate functions using the method of integration by parts or substitution, as appropriate.
7. Solve business, economics, and social sciences applications problems using integration techniques.

**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](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.

**Math 1325.201MW Syllabus**  
**Mathematics for Business, Economics, Life and Social Sciences**

**Instructor:** Mrs. Morgan Groves      **Office Hours:** 8:30am – 10:00am TR (*Virtual*)  
**Email:** mgroves@southplainscollege.edu      1:15pm – 2:45pm MW  
**Office:** 223F – Reese Building 2      10:30am – 12:30pm Fridays  
**Office Phone:** 716-2735      (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 (the online homework system) or in your class notes found on Blackboard.

**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.

**Homework:** All homework assignments will be completed in the online homework system called MyMathLab. 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 4 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. You will get all of your midterm exams back. 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.

**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. 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.

**Grading:**

|                  |     |
|------------------|-----|
| Tests (4 total): | 70% |
| Daily:           | 10% |
| Final Project:   | 20% |
| Bonus (MML):     | 5%  |

**Grading scale:**

|   |             |
|---|-------------|
| A | 90 – 105    |
| B | 80 – 89     |
| C | 70 – 79     |
| D | 60 – 69     |
| F | 59 or below |

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

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

**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.

**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 1325 Fall 2020 |               |   |                      |            |
|--|---------------|---|----------------------|------------|
| Day  | Date          | Topic   | Units                | Bonus Test |
| Monday                                     | Aug 24        | Syllabus/Limits   | 1.1                  | 1          |
| Wednesday                                  | Aug 26        | One-Sided Limits & Limits Involving Infinity            | 1.2                  |            |
| Monday                                     | Aug 31        | Rates of Change   | 1.3                  | 2          |
| Wednesday                                  | Sept 2        | Tangent Lines & Derivatives                             | 1.4                  |            |
| Monday                                     | Sept 7        | <b>Labor Day</b>  |                      | 3          |
| <b>Wednesday</b>                           | <b>Sept 9</b> | <b>Exam 1</b>   | <b>Unit 1</b>        |            |
| Monday                                     | Sept 14       | Basic Derivative Rules & Marginal Analysis              | 2.1                  | 4          |
| Wednesday                                  | Sept 16       | Product & Quotient Derivative Rules & Marginal Analysis | 2.2                  |            |
| Monday                                     | Sept 21       | The Chain Rule  | 2.3                  | 5          |
| Wednesday                                  | Sept 23       | Derivatives of Exponential & Logarithmic Functions      | 2.4                  |            |
| Monday                                     | Sept 28       | Continuity & Differentiability                          | 2.5                  | 6          |
| Wednesday                                  | Sept 30       | Price Elasticity of Demand Case Study                   |                      |            |
| <b>Monday</b>                              | <b>Oct 5</b>  | <b>Exam 2</b>   | <b>Unit 2</b>        | 7          |
| Wednesday                                  | Oct 7         | Local Extrema & First Derivative Test                   | 3.1                  |            |
| Monday                                     | Oct 12        | The Second Derivative & The Second Derivative Test      | 3.2                  | 8          |
| Wednesday                                  | Oct 14        | Optimization  | 3.3                  |            |
| Monday                                     | Oct 19        | Implicit Differentiation                                | 3.4                  | 9          |
| Wednesday                                  | Oct 21        | Related Rates   | 3.5                  |            |
| Monday                                     | Oct 26        | <b>Exam 3</b>   | <b>Unit 3</b>        | 10         |
| Wednesday                                  | Oct 28        | Antiderivatives   | 4.1                  |            |
| Monday                                     | Nov 2         | Integration by Substitution                             | 4.2                  | 11         |
| Wednesday                                  | Nov 4         | Integration by Parts                                    | 4.3                  |            |
| Monday                                     | Nov 9         | Area and the Definite Integral                          | 4.4                  | 12         |
| Wednesday                                  | Nov 11        | The Fundamental Theorem of Calculus                     | 4.5                  |            |
| Monday                                     | Nov 16        | Applications of Integrals                               | 4.6                  | 13         |
| Wednesday                                  | Nov 18        | Unit 4 Lab  |                      |            |
| <b>Monday</b>                              | <b>Nov 23</b> | <b>Exam 4</b>   | <b>Unit 4</b>        | 14         |
| Wednesday                                  | Nov 25        | <b>Thanksgiving</b>                                     |                      |            |
| Monday                                     | Nov 30        | Final Project   |                      | None       |
| Wednesday                                  | Dec 2         | Final Project   |                      |            |
| Monday                                     | Dec 7         | <b>Final Project Due 12pm</b>                           | <b>Comprehensive</b> |            |

Last Day to Drop – November 19<sup>th</sup>