

South Plains College

MATH 1325 – Mathematical Analysis II

Section 002, T R 11– 12:15 pm

Math Bldg., Rm. 105

Instructor: Miss S. Davis

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Text: Mathematics with Applications in the Management, Natural, and Social Sciences, 12th Edition by Lial, Hungerford, Holcomb, & Mullins, Pearson Publisher, 2019. (ISBN: 0-13-476762-8)

Supplies: Scientific calculator preferably TI-82 or higher, graph paper, a ruler, (*at least a 3 in ring*) notebook, hole puncher, stapler, a staple puller, & a red pen/pencil. (If your lack of responsibility results in you asking to borrow any of the supplies from me then there will be automatic 5 point deduction from your final grade. **Bring your supplies to class everyday!**)

Purpose: To provide a transferable course and the mathematical background necessary for Business Administration majors and students in the management, life, and social sciences.

Prerequisites: Successful completion of MATH 1324 and strong algebraic skills.

Attendance: Attendance and effort are the most important activities for success in this course. Records of your attendance are maintained throughout the semester. *If your lack of attendance (i.e., excessive absences) is determined by the instructor to put you at risk of failing the course, you may be dropped from the class with a F as a final grade.* Excessive absences consist of 5 cumulative days. Sleeping in class constitutes an absence. If you unfortunately happen to incur an absence, please contact the instructor either by phone or email and refer to the website to get the assignment before the next class. Please read the “Drops and Withdrawals” policies in the current South Plains College catalog.

Assignment Policy: Homework will be given daily. Although the homework assignments will not always be graded, *the practice is required in order to more fully understand each topic and to successfully negotiate the quizzes & tests.* Questions over the homework problems will be discussed at the beginning of each class meeting if time permits.

Notebook: Homework, quizzes, tests, and other useful material should be kept in a notebook in which the notebook will be used as a reference and study guide. The notebook will be brought to class everyday! The following material will be placed in the notebook in the order listed:

1. Cover sheet including Name, Class, and Semester
2. Syllabus
3. Assignment sheet
4. Notes
5. Work
6. Quizzes
7. Tests
8. Miscellaneous

Blackboard: Additional material for your notebook as well as the syllabus, homework, etc for this class exist on Blackboard. Please be responsible to log in to Blackboard and navigate to the appropriate site for this class and print any material that was not distributed during the first week of class. All material for your notebook needs to be read at least once during the term of this course.

Quizzes & Tests: There will be quizzes given over the assigned homework. The number of quizzes for the semester is undetermined but only a portion will count as the quiz grade. There will be four tests (final exam inclusive). The final exam will be comprehensive.

Make-up Policy: There is no automatic provision for making up exams. Only under extreme circumstances (e.g., death in the family or hospitalization) will make-up exams be given, and these circumstances must be documented. If at all possible, the instructor should be notified prior to missing an exam. If you happen to miss an exam, a grade of **0** will be administered, and under the **H.E.R.** (Honest Effort Rule), this missed exam of grade **0** will not be replaced by the final exam even if the final exam is greater.

Monday	Tuesday	Wednesday	Thursday	Friday
8 – 8:30a	9:15 – 9:30a	10:30 – 11a	9:15 – 9:30a	10 – 11:30a
10:30 – 11a	10:30 – 11a	4:15 – 5:15p		
4:15 – 5:15p	2:30 – 4:30p			
<i>or by appointment</i>				
At the times with this designation, I will be in my office to help you. You do not need an appointment to come see me at these times. When you come, I will be doing something else, but I will stop and help you. I am available at other times, but please give me a courteous call before coming to make sure I am there.				

STUDY: You should normally spend approximately 2-3 hours outside of class in study for each hour of lecture. Try to study the assigned lesson as soon after the class meets as is possible. Refer to the “How to Study” sheet for further detailed studying suggestions.

Tutoring: Free tutoring is available in the room 116 of the Mathematics-Engineering Building. For times and tutor names, please refer to posted tutor schedules in the math building or visit my **Blackboard** page for this class.

Videotapes: Videos for many topics in this course are available through the Mathematics Department on Blackboard. For username and password, please use *mvideos*.

Grading Scale:

$$\text{Average} = \frac{\text{Quiz Avg} + \text{Test 1} + \text{Test 2} + \text{Test 3} + \text{Final}}{5}$$

A: 90 and above
B: 80 - 89
C: 70 - 79
D: 60 - 69
F: 59 or below

Borderline Grades: These grades will be evaluated with regard to attendance and mature conduct in class.

Critical Dates:

Jan 20	MLK, Jr.	April 20	WEB Pre-registration for Spring Interim, Summer, & Fall 2020
March 16 – 20	SPRING Break		
April 13	Easter		Final Exams
April 17	UIL – No office hours	May 5	(10:15 – 12:15 p, Tuesday)
April 23	Last Day to Drop		

Student Responsibilities:

- Attend class and be aware of announcements made in class.
- Work homework problems early enough to seek help if needed.
- Read and know the attendance policy.
- Form study groups.
- Attend math tutoring lab sessions.
- **** Turn off cell phones and pagers during class! ****
 - If the instructor determines that activation of a cell phone, pager, PDA, Ipod, laptop, or any electronic device interrupts the lecture or classroom discussion or impedes the progress of any student then the instructor may confiscate the cell phone, pager, PDA, or laptop and/or ask the student to leave.
- **No technologic devices such as cell phones, PDA’s, etc. are to be used during tests or in-class quizzes.**
- **Follow the classroom policy, no food or drink allowed in the classroom if posted.**
- **In addition to the No Food or Drink classroom policy, no tobacco products are to be consumed in class.**
- **Do not dress for the beach or for bed.**
- **You will obtain your final grade for the class through Texan Connect.**

Cell Phone Policy: All students will, during each class period and for its duration, place and keep their cell phone, provided that they are at the present time in possession of said device, face-down in the right-hand corner and on the top surface of their desk. If a student’s cell phone activates and/or the student engages in text messaging or browses on the internet during class at anytime during the semester, the student, by the instructor’s discretion, could be permanently dismissed from the class for the remainder of the semester. If a student’s cell is activated during class and/or the student engages in text messaging determined by the instructor, and **the student chose not to place their phone on top of their desk as mentioned above** then the student will be dismissed from the class by the instructor permanently.

Academic Misconduct: Complete honesty is required from students in all facets of course work including homework assignments, tests, and the final exam. See the South Plains College Catalog for more detail.

Sanctions for Cheating or Plagiarizing: A grade of “F” in the course will be assigned to any student caught cheating or plagiarizing; additional sanctions may also be considered. Students are responsible for understanding the meanings of the words cheating and plagiarizing

Special Requests: If you happen to become **ill** during the semester, please respect your instructor and your classmates by making your best effort to prevent contamination of the rest of the class including the instructor.

Questions: I invite all your questions **except** the following:

1. I wasn’t able to make it to class. Did I miss anything? (Yes.)
2. Is this going to be on the test? (Perhaps, not directly, but if the ideas were not important, I would not be discussing them in class.)
3. Do you have the test graded? (I normally have the tests graded by the next class day. However, there are times that I do not have them graded but I will have them graded as soon as I can.)

Course Objectives: Upon completion of this course and obtaining a passing grade, the student will have mastered at least 70% of the course objectives. The course objectives state that the student will be able to:

1. Simplify algebraic expressions involving rational expressions, exponents, and radicals.
2. Calculate the solution to algebraic equations.
3. Calculate the limit of a function at a point.
4. Recognize and describe verbally the basic shape of a polynomial curve noting any restrictions to its domain.
5. Determine visually the domain of a function, which has been graphed, and then state domain and its relation to the derivative at particular points.
6. Calculate the derivative of a function using the definition of a derivative.
7. Calculate the derivative using the power, product, quotient, chain rules, and implicit differentiation.
8. Describe verbally a conclusion to a stated problem involving business applications and related rates.
9. Calculate higher order derivatives.
10. Sketch a polynomial curve using techniques involving the first or second derivative.
11. Derive the derivative of a function containing e and \ln .
12. Determine the result asked for in a stated problem involving maximum and minimum.
13. State the equations and geometrical concepts used in preparing to solve a stated problem.
14. Solve a maximum or minimum stated problem and write a conclusion.
15. Calculate an anti-derivative.
16. Calculate a definite integral.
17. State the form of the integral expression used to solve for the area between curves.
18. Calculate the area between curves.

Diversity: 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 Special Services Office, preferably, 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 Special Services Coordinator. For more information, call or visit the Special Services Office in the Student Services Building, 894-9611 ext. 2529.

Confidentiality: As a faculty member, I am deeply invested in the well-being of each student I teach. I am here to assist you with your work in this course. If you come to me with other non-course-related concerns, I will do my best to help.

It is important for you to know that all faculty members are mandated reporters of any incidents of sexual misconduct. That means that I cannot keep information about sexual misconduct confidential if you share that information with me. Dr. Lynne Cleavinger, the Director of Health & Wellness, can advise you confidentially as can any counselor in the Health & Wellness Center. They can also help you access other resources on campus and in the local community. You can reach Dr. Cleavinger at 716-2563 or lclevinger@southplainscollege.edu or go by the Health and Wellness Center. You can schedule an appointment with a counselor by calling 716-2529.

Sexual Misconduct

It is important for you to know that all faculty members are mandated reporters of any incidents of sexual misconduct. That means that I cannot keep information about sexual misconduct confidential if you share that information with me. Dr. Lynne Cleavinger, the Director of Health & Wellness, can advise you confidentially as can any counselor in the Health & Wellness Center. They can also help you access other resources on campus and in the local community. You can reach Dr. Cleavinger at 716-2563 or lclevinger@southplainscollege.edu or go by the Health and Wellness Center. You can schedule an appointment with a counselor by calling 716-2529.

Campus Concealed Carry: 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, please refer to the SPC policy at:

(http://www.southplainscollege.edu/human_resources/policy_procedure/hhc.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.

Course Outline		
This schedule is tentative and subjective to change. Changes will be announced in class.		
Week	Date	Topics and Sections Covered
1	1/14, Tues	Introduction, Misc. Algebra Review
	1/16, Thurs	11.1 Limits
2	1/20, Mon	MLK, Jr.
	1/21, Tues	11.2 Infinite Limits
	1/23, Thurs	11.3 Rates of Change
3	1/28, Tues	11.4 Tangent Lines & Derivatives 11.5 Techniques for Finding Derivatives and Tangent Lines
	1/30, Thurs	11.6 Derivatives of Products & Quotients
4	2/4, Tues	11.7 Chain Rule
	2/6, Thurs	11.8 Derivatives of Exponential & Logarithmic Functions
5	2/11, Tues	11.9 Continuity & Differentiability
	2/13, Thurs	Review
6	2/18, Tues	TEST #1 (Limits & Derivatives)
	2/20, Thurs	12.1 Local Extrema (1 st Derivative Test)
7	2/25, Tues	12.2 Second Derivative (2 nd Derivative Test)
	2/27, Thurs	12.3 Optimization Applications
8	3/3, Tues	12.4 Implicit Differentiation
	3/5, Thurs	12.5 Related Rates
9	3/10, Tues	12.6 Curve Sketching
	3/12, Thurs	TEST #2 (Derivative Tests & Optimization)
3/16 - 3/20 Spring Break		
10	3/24, Tues	13.1 Antiderivatives
	3/26, Thurs	13.2 Integration by Substitution
11	3/31, Tues	13.3 Integration by Parts
	4/2, Thurs	13.4 Area & the Definite Integral 13.5 The Fundamental Theorem of Calculus
12	4/7, Tues	13.6 Application of Integrals
	4/9, Thurs	13.7 Differential Equations
13	4/13, Mon	EASTER
	4/14, Tues	Review
	4/16, Thurs	TEST #3 (Antiderivatives)
4/17, Fri UIL – No office hours		
14	4/21, Tues	14.1 Functions of Several Variables 14.2 Partial Derivatives
	4/23, Thurs	14.3 Extrema of Functions of Several Variables (Maxima & Minima)
15	4/28, Tues	14.4 Lagrange Multipliers
	4/30, Thurs	Review for FINAL
Final(s)	5/5	Tuesday FINAL EXAM: 10:15 – 12:15p

MATH 1325 (3:3:0)
MATHEMATICAL ANALYSIS II

MATHEMATICS DEPARTMENT

Division of Arts & Sciences

South Plains College

Spring 2020

Shirley Davis