South Plains College

MATH 1325 – Mathematical Analysis II
Section 002, T R 11– 12:15 pm
Math Bldg., Rm. 105

Instructor: Ms. S. Davis
Office: 103 MATH Bldg. (Levelland)
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Monday	Tuesday	Wednesday	Thursday	Friday
9:30 – 11 a		9:30 – 11 a	4:20 – 5:20 p	1 – 4 p
1:30 – 2:30p			(Reese)	
or by appointment				

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.

Text: College Mathematics for Business, Economics, Life Sciences, and Social Sciences, 13th edition, Barnett, Ziegler, and Byleen, Prentice Hall. 2011. (ISBN-10: 0-321-94551-4)

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 3 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 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. Tests
7. Miscellaneous

To print additional material for your notebook, please visit my **Blackboard**. All printed material needs to be read at least once during the term of this course.

Tests: There will be four tests (final exam inclusive). Any excused (notification must be made in advance) missed exam will be discussed with the instructor. The final exam will be comprehensive since the intent of this class is preparation for Business Math II (MATH 1325). The final exam can replace your lowest test grade provided that it is greater than the lowest test grade (the exception is the **H.E.R.**)

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.

Study You should normally spend approximately 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.

Grading Scale:

$$\text{Average} = \frac{\text{Test 1} + \text{Test 2} + \text{Test 3} + \text{Final}}{4}$$

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

Critical Dates:

Sept 5	Labor Day	Nov 10	WEB Pre-registration for Spring 2017
Oct 14	FALL Break		
Nov 17	Last day to drop	**Final Exam**	
Nov 23- 25	Thanksgiving	Dec 13	*(10:15 – 12:15p, Tuesday)*

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

Videotapes: Videotapes for many topics in this course are available online on at the following web address (http://spc.blackboard.com/webct/entryPageIns.dowebct). For username and password, please use *mvideos*.

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

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.
- ** *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.
- Do not dress for the beach or for bed.
- In addition to the No Food or Drink classroom policy, no tobacco products are to be consumed in class.
- You will obtain your final grade for the class through MySPC and CampusConnect.

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.

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.)

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 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.

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.

"It's not that I'm so smart; it's just that I stay with problems longer." -- *Albert Einstein*

		Course Outline This schedule is tentative and subjective to change. Changes will be announced in class.
Week	**Date**	**Topics and Sections Covered**
1	8/30, Tues	**Introduction,** Misc. Algebra Review
	9/1, Thurs	10.1 Limits 10.2 Infinite Limits
2	9/5, Mon	*Labor Day*
	9/6, Tues	10.3 Continuity 10.4 Definition of a Derivative
	9/8, Thurs	10.5 Differentiation Properties – Power Rule 11.3 Derivatives of Products & Quotients
3	9/13, Tues	10.7 Application: Marginal Analysis
	9/15, Thurs	11.1 Constant, e, and Continuous Compound Interest
4	9/20, Tues	11.2 Derivatives of Exponential & Logarithmic Functions
	9/22, Thurs	11.3 Derivatives of Products & Quotients of Exponential & Logarithmic Functions contd.
5	9/27, Tues	11.4 Chain Rule
	9/29, Thurs	11.5 Implicit Differentiation
6	10/4, Tues	11.6 Application: Related Rates
	10/6, Thurs	12.3 L'Hopital's Rule
7	10/11, Tues	Review
	10/13, Thurs	**TEST #1** *(Limits & Derivatives)*
8	10/18, Tues	12.1 1st Derivative Test
	10/20, Thurs	12.2 2nd Derivative Test
9	10/25, Tues	12.5 Absolute Max & Min
	10/27, Thurs	12.6 Application Optimization
10	11/1, Tues	**TEST #2** *(Derivative Tests & Optimization)*
	11/3, Thurs	13.1 Antiderivatives & Indefinite Integrals
11	11/8, Tues	13.2 Integration by Substitution
	11/10, Thurs	13.5 Definite Integrals: The Fundamental Theorem of Calculus
12	11/15, Tues	13.3 Application: Differential Equations – Growth & Decay
	11/17, Thurs	14.3 Integration by Parts
13	11/22, Tues	**TEST #3** *(Antiderivatives)*
	11/24, Thurs	*Thanksgiving*
14	11/29, Tues	14.1 Area Between Curves
	12/1, Thurs	15.1 Functions of Several Variables 15.2 Partial Derivatives
15	12/6, Tues	15.3 Maxima & Minima 15.4 Lagrange Multipliers
	12/8, Thurs	*Review* for FINAL
Final(s)	12/13, Tues	*Section 002* *FINAL EXAM: 10:15 – 12:15p*

MATH 1325 (3:3:0)

MATHEMATICAL ANALYSIS II

MATHEMATICS DEPARTMENT

Division of Arts & Sciences

South Plains College

Fall 2016

Shirley Davis