

South Plains College  
Math 2413 – Calculus I (4:3:2)  
Course Syllabus  
Spring 2019

**Instructor:** Diane Eagle

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**Office Hours:**

Monday	Tuesday	Wednesday	Thursday	Friday
1:45 to 3:00	1:45 to 3:00	1:45 to 3:00	1:45 to 3:00	9:00 – 12:00

**Prerequisite:** MATH 1314 and MATH 1316 (or concurrent enrollment in both classes) or MATH 2412.

**Textbook:** Calculus Volume 1 from OpenStax. Print ISBN 193816802X, Digital ISBN 1947172131. This textbook is available for free online, in web view and PDF format; you may also purchase a print version. Go to: [www.openstax.org/details/calculus-volume-1](http://www.openstax.org/details/calculus-volume-1)

**Supplies:** Pencils, paper, 3-ring notebook, straightedge, and graph paper. **Only a basic non-graphing calculator (such as a TI-30) will be allowed in class.** Graphing calculators and calculators on cell phones or other electronic devices or apps will **NOT** be allowed during tests or in-class assignments. Arrive on time and come prepared to take notes every day.

**Course Description:** The purpose of this course is to provide a rigorous introductory study of differential and integral calculus for transfer into programs requiring a foundation of calculus. Topics include functions, limits, continuity, differentiation of algebraic functions, applications of the derivative, differentials, indefinite integrals, definite integrals, and applications of definite integrals.

**Student Learning Outcomes:**

Upon successful completion of this course students will:

1. Develop solutions for tangent and area problems using the concepts of limits, derivatives, and integrals.
2. Draw graphs of algebraic and transcendental functions considering limits, continuity, and differentiability at a point.
3. Determine whether a function is continuous and/or differentiable at a point using limits.
4. Use differentiation rules to differentiate algebraic and transcendental functions.
5. Identify appropriate calculus concepts and techniques to provide mathematical models of real-world situations and determine solutions to applied problems.
6. Evaluate definite integrals using the Fundamental Theorem of Calculus.
7. Articulate the relationship between derivatives and integrals using the Fundamental Theorem of Calculus.

### General Education Core Objectives:

1. **Critical Thinking:** Students will develop habits of mind, allowing them to appreciate the processes by which scholars in various disciplines organize and evaluate data and use the methodologies of each discipline to understand the human experience.
2. **Communication Skills:** Students will communicate ideas, express feelings and support conclusions effectively in written, oral and visual formats.
3. **Empirical and Quantitative Skills:** Students will develop quantitative and empirical skills to understand, analyze and explain natural, physical and social realms.

**Course Evaluation:** Your final grade will be determined by the average of 4 major tests (400 points) the comprehensive final exam (100 points) and weekly quiz grades (100 points.) A total of 600 points are possible. The number of points earned will follow the grading scale below:

<b>Grading Scale:</b>	A	90 to 100	537 to 600 points
	B	80 to 89	477 to 536 points
	C	70 to 79	417 to 476 points
	D	60 to 69	357 to 416 points
	F	Below 60	0 to 356 points

**Exams:** Dates for the 4 major tests and comprehensive final exam are listed on the calendar. **There are NO makeup tests.** If you miss one of the 4 major tests, your final exam will count twice to replace the missing grade. A second missed test will be averaged as a zero. The final exam grade (if higher) will also replace the lowest major exam grade; however, if the final exam is lower than any of the 4 major exam grades, then it will only count once in the course average.

**Homework and Quizzes:** Homework will be assigned from each section covered and organized in a notebook. All steps/work must be neatly shown and the answer clearly indicated. Your work must be relevant and produce the correct answer; in other words, **do not write answers only!** Consistently working problems reinforces the skills and concepts presented and is essential for success in this course. Work problems early enough to seek help if necessary. Weekly quizzes will be given during lab time. To do well on the quizzes, you need to be consistently completing the homework. Focus your effort on being able to complete the problems on a quiz/exam without any outside resources. **There is NO makeup for in-class quizzes and a grade of zero will be assigned.** Quiz grades comprise 100 points, or 17% of your overall average.

**Bonus Points:** Students will have the opportunity to make corrections on **one** test (final exam not included) of their choosing, for up to 50% of the points missed. Corrections are due the following class period after the test is handed back. Test corrections must have complete and correct solutions and be turned in on a separate sheet of paper **with** the exam.

**Tutoring:** Students can obtain free tutoring in room M116 in the math building on the South Plains Campus in Levelland or in Building 2 at the Reese Center. Tutoring schedules will be posted on campus and on Blackboard. Please remember to sign in when you seek the help of a tutor in each of these places.

**Additional Resources:** Blackboard is the online management system used for this course. Your grades, along with the course syllabus, handouts, reviews, and PowerPoint slides accompanying our textbook can all be accessed through Blackboard. Opportunities for additional points are occasionally posted. Free tutorial videos are available at the following sites: <http://patrickjmt.com/>, <http://www.mathtv.com/>, and <http://www.khanacademy.org/>. These links are posted on Blackboard. **Be sure to check Blackboard and your SPC email account regularly for class announcements and updates.**

**Attendance Policy:** Attendance will be taken every class period. Students who arrive late, leave early, sleep during class, or **access their cell phones during class**, may be counted absent. Whenever absences become excessive and, in the instructor's opinion, minimum course objectives cannot be met due to absences, the student will be withdrawn from the course. **Any student who misses 3 consecutive classes or exceeds 5 absences throughout the semester will be administratively dropped and receive a grade of X or F.** Students wishing to drop this class must see the registrar by Thursday, April 25, 2019 to officially withdraw and receive a grade of W.

**Classroom Civility:** Students are expected to be respectful of their fellow classmates and maintain a classroom environment that is conducive to learning. Turn off all cell phones and other electronic devices **before** entering the classroom. **Use of cell phones during class will not be tolerated! You will receive ONE verbal warning, after which you will be asked to leave and receive a zero for that day's assignment.** Refrain from using offensive language, talking loudly or off-topic, working on outside assignments, chewing tobacco products, or otherwise being disruptive in class. Food and/or drinks are NOT allowed in the classroom.

**Academic Honesty:** Students are expected to uphold the ideas of academic honesty. Academic dishonesty includes, but is not limited to, cheating on tests, collaborating with another student during a test, copying another student's work, using materials not authorized, and plagiarism. **Use of a graphing calculator, cell phone, or other electronic devices or apps during any in-class assignment or exam will result in a grade of zero.** Leaving the classroom during an exam will not be permitted. Students who do not follow the academic honesty policy will receive a grade of zero for the assignment, and may be dropped from the course with an F, or face possible suspension from the college.

**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.

**Disabilities 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.

**Non-Discrimination Statement:** 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.

**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: <https://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 911.

## MATH 2413.001 – SPRING 2019

Week	Monday		Wednesday	
<b>1</b>	Jan. 14	Syllabus Chapter 1 Review	Jan. 16	2.2 The Limit of a Function
<b>2</b>	Jan. 21	<b>Martin Luther King Holiday</b>	Jan. 23	2.3 The Limit Laws 2.4 Continuity
<b>3</b>	Jan. 28	3.1 Defining the Derivative	Jan. 30	3.3 Differentiation Rules
<b>4</b>	Feb. 4	3.4 Rates of Change	Feb. 6	<b>TEST 1</b>
<b>5</b>	Feb. 11	3.5 Derivatives of Trigonometric Functions	Feb. 13	3.6 The Chain Rule
<b>6</b>	Feb. 18	3.7 Derivatives of Inverse Functions	Feb. 20	3.8 Implicit Differentiation
<b>7</b>	Feb. 25	3.9 Derivatives of Exponential and Logarithmic Functions	Feb. 27	<b>TEST 2</b>
<b>8</b>	Mar. 4	4.1 Related Rates	Mar. 6	Curve Sketching
<b>Spring Break – March 11 through March 15</b>				
<b>9</b>	Mar. 18	4.7 Optimization	Mar. 20	4.10 Antiderivatives
<b>10</b>	Mar. 25	5.2 The Definite Integral 5.3 The Fundamental Theorem of Calculus	Mar. 27	<b>TEST 3</b>
<b>11</b>	Apr. 1	5.5 Substitution	Apr. 3	5.6 Integrals Involving Exponential and Logarithmic Functions
<b>12</b>	Apr. 8	5.7 Integrals Resulting in Inverse Trigonometric Functions	Apr. 10	6.1 Area Between Curves
<b>13</b>	Apr. 15	6.2, 6.3 Volumes of Revolution (Disk, Washer, and Shell Methods)	Apr. 17	<b>TEST 4</b>
<b>14</b>	Apr. 22	<b>Easter</b>	Apr. 24	6.4 Arc Length of a Curve and Surface Area
<b>15</b>	Apr. 29	6.6 Moments and Centers of Mass	May 1	<b>REVIEW</b>
<b>16</b>	May 6	<b>FINAL EXAM</b> <b>8:00 am – 10:00 am</b>	May 8	<b>NO CLASS</b>

**Last day to drop is Thursday, April 25, 2019\*\*\***