

South Plains College
Common Course Syllabus: MATH 2413
Revised December 2019

Department: Mathematics, Engineering, and Computer Science

Discipline: Mathematics

Course Number: MATH 2413

Course Title: Calculus I

Available Formats: conventional

Campuses: Levelland and Reese

Course Description: Limits and continuity; the Fundamental Theorem of Calculus; definition of the derivative of a function and techniques of differentiation; applications of the derivative to maximizing or minimizing a function; the chain rule, mean value theorem, and rate of change problems; curve sketching; definite and indefinite integration of algebraic, trigonometric, and transcendental functions, with an application to calculation of areas.

Prerequisite: Successful completion with a grade of 'C' or better in MATH 2412 or successful completion with a grade of 'C' or better in MATH 1314 and MATH 1316.

Credit: 4 **Lecture:** 3 **Lab:** 2

Textbook: *Calculus, Volume 1*, Strang and Herman, OpenStax

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. 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.

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. Records of your attendance are maintained throughout the semester. Five (5) absences, **for any reason**, are allotted to the student for the semester. Tardies count as one-half (1/2) of an absence. Tardies will be applied for consistently being late to class, as deemed by the instructor and leaving class early. If this number is exceeded, the instructor has the right to drop you with a grade of F or an X, depending on their 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.

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.

Math 2413 – Calculus I (4:3:2) Course Syllabus Spring 2020

Instructor: Diane Eagle

Office: 215A, Reese Campus, building 2

Phone: 806-716-2736

E-mail: deagle@southplainscollege.edu

Office Hours:

Monday	Tuesday	Wednesday	Thursday	Friday
10:30 – 11:00 1:30 – 3:00	10:30 – 11:00 4:00 – 5:30	10:30 – 11:00 1:30 – 3:00	10:30 – 11:00 4:00 – 5:30	By appointment

Supplies: Pencils, paper, straightedge, and graph paper. **Only a basic non-graphing calculator 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. This textbook is available for free online; you may also purchase a print version. Go to: www.openstax.org/details/calculus-volume-1

Course Evaluation: Your final grade will be determined by the average of four tests (400 points) the comprehensive final exam (120 points) and quizzes (80 points.) A total of 600 points are possible. The number of points earned will follow the grading scale below:

Grading Scale:	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

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.

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. **Use of a cell phone during any exam will result in a grade of zero.**

Homework and Quizzes: Consistently working problems reinforces the skills and concepts presented, and is essential for success in this course. In addition, many test questions come directly from the assigned problems and examples worked in class. Short quizzes will be given daily, worth 5 points each. To do well on these quizzes, you must complete the homework. Completed homework assignments may be used to work these quizzes, but not the textbook or your notes. Focus your effort on being able to complete the problems on a quiz/exam without any outside resources. **There is NO makeup for quizzes and a grade of zero will be assigned.** Quizzes account for 80 points, or approximately 13% 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.

Additional Resources: Blackboard is the online management system used for this course. Your grades, along with the course syllabus, handouts, reviews, and other resources can all be accessed through Blackboard. PowerPoint slides accompanying this textbook are available on Blackboard and handouts may be printed. Opportunities for additional points are occasionally posted. **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 23, 2020 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 (refer to page 1.) **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.

Email: Your SPC email account will be used for all correspondence and notifications. When emailing me, be sure to include your name and course section. Provide problem/page numbers or a screen shot.

MATH 2413.201 – SPRING 2020

Week	Monday		Wednesday	
1	Jan. 13	Syllabus Chapter 1 Review	Jan. 15	2.2 The Limit of a Function
2	Jan. 20	Martin Luther King Day	Jan. 22	2.3 The Limit Laws 2.4 Continuity
3	Jan. 27	3.1 Defining the Derivative	Jan. 29	3.3 Differentiation Rules
4	Feb. 3	3.4 Rates of Change	Feb. 5	TEST 1
5	Feb. 10	3.5 Derivatives of Trigonometric Functions	Feb. 12	3.6 The Chain Rule
6	Feb. 17	3.7 Derivatives of Inverse Functions	Feb. 19	3.8 Implicit Differentiation
7	Feb. 24	3.9 Derivatives of Exponential and Logarithmic Functions	Feb. 26	TEST 2
8	Mar. 2	4.1 Related Rates	Mar. 4	Curve Sketching
9	Mar. 9	4.7 Optimization	Mar. 11	4.10 Antiderivatives
Spring Break – March 16 through March 20				
10	Mar. 23	5.2 The Definite Integral 5.3 The Fundamental Theorem of Calculus	Mar. 25	TEST 3
11	Mar. 30	5.5 Substitution	Apr. 1	5.6 Integrals Involving Exponential and Logarithmic Functions
12	Apr. 6	5.7 Integrals Resulting in Inverse Trigonometric Functions	Apr. 8	6.1 Area Between Curves
13	Apr. 13	Easter	Apr. 15	TEST 4
14	Apr. 20	6.2, 6.3 Volumes of Revolution (Disk, Washer, and Shell Methods)	Apr. 22	6.4 Arc Length of a Curve and Surface Area
15	Apr. 27	6.6 Moments and Centers of Mass	Apr. 29	REVIEW
16	May 4	NO CLASS	May 6	FINAL EXAM 3:15 pm – 5:15 pm

****Last day to drop is Thursday, April 23, 2020*****