South Plains College
Mathematics Department
Calculus I – MATH 2413
Course Syllabus
Fall 2018

Instructor: Jay Driver
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Office Hours: MW 3:00-4:00pm
TR 11:00am-12:00pm, 3:05-3:35pm
F 9:00am-12:00pm
And by appointment!

Course Description: MATH 2413. CALCULUS I. (4:3:2) Prerequisite: MATH 1314 and MATH 1316 (or concurrent enrollment in MATH 1316) or MATH 2412. Topics include functions, limits, continuity, differentiation of algebraic functions, applications of the derivative, differentials, indefinite integrals, definite integrals and applications of definite integrals. (copied from the current SPC catalog)

Textbook: OpenStax College. (2017). Calculus, Volume 1. Houston, TX: OpenStax CNX. Retrievable from https://openstax.org/details/books/calculus-volume-1 Print ISBN 193816802X, Digital ISBN 1947172131

The following statements are considered at South Plains College to be **Core Objectives**, which are embedded into the curriculum of this course.

Communication Skills:
- Develop, interpret, and express ideas through written communication
- Develop, interpret, and express ideas through oral communication
- Develop, interpret, and express ideas through visual communication

Critical Thinking:
- Generate and communicate ideas by combining, changing, and reapplying existing information
- Gather and assess information relevant to a question
- Analyze, evaluate, and synthesize information

Empirical and Quantitative Competency Skills:
- Manipulate and analyze numerical data and arrive at an informed conclusion
- Manipulate and analyze observable facts and arrive at an informed conclusion

Course Objectives: Upon completion of this course, mastery of the following objectives should be met by the student.
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.

Attendance: Attendance and effort are the most important activities for success in this course. Class attendance may be taken at any time during the class period, so please do not arrive late or leave early. You may be dropped from this course with a grade of X or F if you are absent three consecutive classes or if you exceed five absences throughout the semester. Be on time and silence any cell phones before entering the classroom.

Assignments & Grading: Homework assignments will be made at each class meeting. Quizzes may be administered at any time. Keep all class materials (notes, handouts, homework, quizzes, and exams) organized in a notebook (3-ring binder). These materials are subject to be turned in for grading at any time. Please make

certain all materials accompany you to each class meeting. No late assignments will be accepted. Daily work (homework, quizzes, notebook) will count for 20% of the final grade, while all exams count for 80% of the final grade. Expect four major exams (15% each) throughout the course and a cumulative final exam (20%) at the end of the course. Your final average in the course will determine the letter grade posted on your transcript. This grade is determined by the following scale: A (90-100%), B (80-89%), C (70-79%), D (60-69%), F (0-59%).

Format for submitting all assignments:

1. Write the problem.
2. Show all necessary work.
3. Clearly mark your answer.
4. Check your answers in the back of the textbook to make certain you are practicing correctly.

Supplementary Course Information & Tutoring: Blackboard is the online course management system that will be utilized for this course. This course syllabus, as well as any class handouts can be accessed through Blackboard. Login at https://southplainscollege.blackboard.com/. The user name and password should be the same as the MySPC and SPC email.

User name: first initial, last name, and last 4 digits of the Student ID
Password: Original CampusConnect Pin No. (found on SPC acceptance letter)

Free tutoring is available in room M116 at the Levelland campus or in Building 2 at the Reese Center. Check Blackboard often for the latest tutoring schedule and course supplements (handouts, online practice quizzes, additional notes, sample problems for practice, etc.).

Questions regarding Blackboard support may be emailed to blackboard@southplainscollege.edu or by telephone to 806-716-2180.

Supplies: You will need a scientific or graphing calculator, graph paper, and a 3-ring binder. Calculators on cell phones, TI-89, TI-92, or TI-Inspire calculators, or any other electronic devices will not be allowed during testing without permission from the instructor.

Disability: 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) & Lubbock Center 806-716-4675, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.

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, 806-894-9611.

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.

Calculus I Tentative Course Outline
MATH 2413.002 (TR 8:30-10:35am) and .003 (TR 1:00-3:05pm)
Fall 2018

Week	Day	Date	Lesson Topic & Assignment
1	Tue	Aug 28	*Assignment 1:* Functions Review
	Thur	Aug 30	*Assignment 2:* Limits: Tables and Graphs
2	Mon	Sep 3	*Labor Day Holiday*
	Tue	Sep 4	*Assignment 3:* Limits & Continuity
	Thur	Sep 6	*Assignment 4:* Definition of Derivative
3	Tue	Sep 11	*Assignment 5:* Differentiation Rules
	Thur	Sep 13	*Assignment 6:* Rates of Change
4	Tue	Sep 18	**Exam 1 (15%)**
	Thur	Sep 20	*Assignment 7:* Differentiation of Trigonometric Functions
5	Tue	Sep 25	*Assignment 8:* The Chain Rule
	Thur	Sep 27	*Assignment 9:* Derivatives of Inverse Functions
6	Tue	Oct 2	*Assignment 10:* Implicit Differentiation
	Thur	Oct 4	*Assignment 11:* Differentiation of Exponential and Logarithmic Functions
7	Tue	Oct 9	**Exam 2 (15%)**
	Thur	Oct 11	*Assignment 12:* Related Rates
	Fri	Oct 12	*SPC Fall Break (all offices closed)*
8	Tue	Oct 16	*Assignment 13:* Curve Sketching (part 1 of 2)
	Thur	Oct 18	*Assignment 14:* Curve Sketching (part 2 of 2)
9	Tue	Oct 23	*Assignment 15:* Optimization
	Thur	Oct 25	*Assignment 16:* Antiderivatives
10	Tue	Oct 30	**Exam 3 (15%)**
	Thur	Nov 1	*Assignment 17:* Definite Integrals & The Fundamental Theorem of Calculus
11	Tue	Nov 6	*Assignment 18:* Integration by Substitution
	Thur	Nov 8	*Assignment 19:* Integration Involving Exponential and Logarithmic Functions
12	Mon	Nov 12	*Online Registration Opens for Winter and Spring Semesters*
	Tue	Nov 13	*Assignment 20:* Integration Resulting in Inverse Trigonometric Functions
	Thur	Nov 15	**Exam 4 (15%)** *Last day to drop a class at SPC*
13	Tue	Nov 20	*Assignment 21:* Area Between Curves
	Wed-Fri	Nov 21-23	*Thanksgiving holiday*
14	Tue	Nov 27	*Assignment 22:* Volumes by Slicing and Volumes of Revolution (Disks and Washers)
	Thur	Nov 29	*Assignment 23:* Volumes of Revolution Part 2: The Shell Method
15	Tue	Dec 4	*Assignment 24:* Moments and Centers of Mass
	Thur	Dec 6	*Assignment 25:* Arc Length and Surface Area of Revolution *Assignment 26:* Numerical Integration
16			**Final Exam (20%) TBA**