South Plains College
Mathematics Department
Calculus I – MATH 2413
Course Syllabus
Fall 2017

Instructor: Jay Driver
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Office Hours: MW 3:05-3:35pm
TR 11:00-12:00pm, 1:30-2:30pm
F 9:00-12:00
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: Larson, R., Edwards, B.H. (2014). Calculus, Tenth Edition. Boston, MA: Brooks/Cole Cengage Learning. ISBN 978-1-285-05709-5.

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. Chapter and section numbers are indicated in parentheses.
1. Find limits of functions (graphically, numerically and algebraically) (1.2, 1.3, 1.4, 1.5, 3.5).
2. Analyze and apply concepts of continuity and differentiability to functions (1.4, 2.1).
3. Find and evaluate derivatives of functions using standard derivative rules including implicit differentiation (2.1, 2.2, 2.3, 2.4, 2.5).
4. Analyze and sketch graphs of functions using limits and derivatives (3.1, 3.2, 3.3, 3.4, 3.6).
5. Apply derivative rules to solve problems involving rates and optimization (2.6, 3.7).
6. Use basic techniques of integration to find antiderivatives (4.1, 4.3, 4.4, 4.5).
7. Evaluate definite integrals using numerical methods (4.6).
8. Apply the concepts of integration to solve problems involving area, volumes of revolution, lengths of curves, surface area, center of mass, work, and fluid pressure (4.2, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7).

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 four consecutive classes or if you exceed six 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%).

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.

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 http://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 and video tapes are available in room M116 on the Levelland campus and Building 2 on the Reese campus. Digital versions of these tutorial videos can be viewed on your personal computer at the Blackboard address given above. 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.

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 8:30am – 10:35am)
MATH 2413.003 (TR 2:30pm – 4:35pm)
Fall 2017

Week	Day	Date	Lesson Topic & Assignment
1	Tuesday	August 29	*Assignment 1:* Functions
	Thursday	August 31	*Assignment 2:* Limits & Continuity
2	Tuesday	September 5	*Assignment 3:* Definition of Derivative
	Thursday	September 7	*Assignment 4:* Power, Product, & Quotient Rules
3	Tuesday	September 12	*Assignment 5:* Trigonometric Functions & Their Derivatives
	Thursday	September 14	*Assignment 6:* Chain Rule
4	Tuesday	September 19	**Exam 1 (15%)**
	Thursday	September 21	*Assignment 7:* Differentiation of some Transcendental Functions
5	Tuesday	September 26	*Assignment 8:* Implicit Differentiation
	Thursday	September 28	*Assignment 9:* Rates of Change
6	Tuesday	October 3	*Assignment 10:* Related Rates
	Thursday	October 5	*Assignment 11:* Curve Sketching: Maxima/Minima, Inflection, and Concavity
7	Tuesday	October 10	*Assignment 12:* Curve Sketching: Asymptotes
	Thursday	October 12	*Assignment 13:* Optimization (part 1 of 2)
8	Tuesday	October 17	**Exam 2 (15%)**
	Thursday	October 19	*Assignment 14:* Optimization (part 2 of 2)
9	Tuesday	October 24	*Assignment 15:* Integration with Indefinite Integrals
	Thursday	October 26	*Assignment 16:* Substitution Method
10	Tuesday	October 31	*Assignment 17:* Definite Integrals & The Fundamental Theorem of Calculus
	Thursday	November 2	*Assignment 18:* Numerical Integration
11	Tuesday	November 7	**Exam 3 (15%)**
	Thursday	November 9	*Assignment 19:* Area
12	Monday	November 13	*Online registration opens for the Winter Interim and Spring 2018 at 8:00am*
	Tuesday	November 14	*Assignment 20:* Volumes of Revolution: Disks & Washers
	Thursday	November 16	*Assignment 21:* Volumes of Revolution: Shells *Last day to drop a class at SPC*
13	Tuesday	November 21	*Assignment 22:* Moments & Centroids
	Thursday	November 23	*Thanksgiving Holiday*
14	Tuesday	November 28	*Assignment 23:* Lengths of Plane Curves & Surface Area of Revolution
	Thursday	November 30	**Exam 4 (15%)**
15	Tuesday	December 5	*Assignment 24:* Work & Fluid Pressures
	Thursday	December 7	*Assignment 25:* Review for comprehensive final exam
16	Tuesday	December 12	**Section 002 (TR8:30): Final Exam (20%) from 8:00-10:00am** **Section 003 (TR2:30): Final Exam (20%) from 1:00-3:00pm**