South Plains College
Mathematics Department
Calculus I – MATH 2413
Course Syllabus
Fall 2016

Instructor: Jay Driver
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Office Hours: MW 10:40-11:30am.
TR 10:40am-12:30pm.
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: 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 Center 806-716-2577, Reese Center (also covers ATC) Building 8: 806-716-4675, Plainview Center Main Office: 806-716-4302 or 806-296-9611, or the Health and Wellness main number at 806-716-2529.

Equal Opportunity: South Plains College strives to accommodate the individual needs of all students in order to enhance their opportunities for success in the context of a comprehensive community college setting. It is the policy of South Plains College to offer all educational and employment opportunities without regard to race, color, national origin, religion, gender, disability or age.

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.

Calculus I Tentative Course Outline
MATH 2413.002 (TR 8:30am – 10:35am) and .003 (TR 2:30pm – 4:35pm)
Fall 2016

Week	Day	Date	Lesson Topic & Assignment
1	Tuesday	August 30	Assignment 1: Functions
	Thursday	September 1	Assignment 2: Limits & Continuity
2	*Monday*	*September 5*	*Labor Day Holiday*
	Tuesday	September 6	Assignment 3: Definition of Derivative
	Thursday	September 8	Assignment 4: Power, Product, & Quotient Rules
3	Tuesday	September 13	Assignment 5: Trigonometric Functions & Their Derivatives
	Thursday	September 15	Assignment 6: Chain Rule
4	Tuesday	September 20	Assignment 7: Differentiation of some Transcendental Functions
	Thursday	September 22	**Exam 1 (15%)**
5	Tuesday	September 27	Assignment 8: Implicit Differentiation
	Thursday	September 29	Assignment 9: Rates of Change
6	Tuesday	October 4	Assignment 10: Related Rates
	Thursday	October 6	Assignment 11: Curve Sketching Part 1 of 2
7	Tuesday	October 11	Assignment 11: Curve Sketching Part 2 of 2
	Thursday	October 13	Assignment 12: Optimization Part 1 of 2
	Friday	*October 14*	*SPC Fall Break (all offices closed)*
8	Tuesday	October 18	**Exam 2 (15%)**
	Thursday	October 20	Assignment 12: Optimization Part 2 of 2
9	Tuesday	October 25	Assignment 13 Integration with Indefinite Integrals
	Thursday	October 27	Assignment 14: Substitution Method
10	Tuesday	November 1	Assignment 15: Definite Integrals & The Fundamental Theorem of Calculus
	Thursday	November 3	Assignment 16: Numerical Integration
11	Tuesday	November 8	**Exam 3 (15%)**
	Thursday	November 10	Assignment 17: Area *Online Registration for Spring Semester Opens at 8:00am*
12	Tuesday	November 15	Assignment 18: Volumes of Revolution: Disks
	Thursday	November 17	Assignment 19: Volumes of Revolution: Washers & Shells *Last Day to Drop Fall Semester Courses*
13	Tuesday	November 22	Assignment 20: Moments & Centroids
	Thursday	November 24	Assignment 21: Lengths of Plane Curves *Thanksgiving break November 23-25*
14	Tuesday	November 29	Assignment 22: Surface Area of Revolution
	Thursday	December 1	**Exam 4 (15%)**
15	Tuesday	December 6	Assignment 23: Work & Fluid Pressures
	Thursday	December 8	Review for comprehensive final exam
16	Tuesday	December 13	**Final Exam (20%) from 8:00am - 10:00am (Section .002)**
	Tuesday	December 13	**Final Exam (20%) from 1:00pm - 3:00pm (Section .003)**