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

Instructor: Jay Driver
Office: M114 (mathematics building)
Telephone: (806) 716-2780
Email: jdriver@southplainscollege.edu

Office Hours: MW 12:45-1:15pm, 2:00-2:30pm
TR 1:30-3:00pm
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%).

Format for submitting 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.

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 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 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 2413.001 (MW 2:30 – 4:35pm)
Spring 2018

Week	Day	Date	Lesson Topic & Assignment
1	Wednesday	January 17	*Assignment 1:* Functions
2	Monday	January 22	*Assignment 2:* Limits & Continuity
	Wednesday	January 24	*Assignment 3:* Definition of Derivative
3	Monday	January 29	*Assignment 4:* Power, Product, & Quotient Rules
	Wednesday	January 31	*Assignment 5:* Trigonometric Functions & Their Derivatives
4	Monday	February 5	*Assignment 6:* Chain Rule
	Wednesday	February 7	**Exam 1 (15%)**
5	Monday	February 12	*Assignment 7:* Differentiation of some Transcendental Functions
	Wednesday	February 14	*Assignment 8:* Implicit Differentiation
6	Monday	February 19	*Assignment 9:* Rates of Change
	Wednesday	February 21	*Assignment 10:* Related Rates
7	Monday	February 26	*Assignment 11:* Curve Sketching: Maxima/Minima, Inflection, and Concavity
	Wednesday	February 28	*Assignment 12:* Curve Sketching: Asymptotes
8	Monday	March 5	*Assignment 13:* Optimization (part 1 of 2)
	Wednesday	March 7	**Exam 2 (15%)**
Monday-Friday, March 12-16			*South Plains College Spring Break*
9	Monday	March 19	*Assignment 14:* Optimization (part 2 of 2)
	Wednesday	March 21	*Assignment 15:* Integration with Indefinite Integrals
10	Monday	March 26	*Assignment 16:* Substitution Method
	Wednesday	March 28	*Assignment 17:* Definite Integrals & The Fundamental Theorem of Calculus
11	Monday	April 2	*Easter Holiday*
	Wednesday	April 4	*Assignment 18:* Numerical Integration
12	Monday	April 9	**Exam 3 (15%)**
	Wednesday	April 11	*Assignment 19:* Area
13	Monday	April 16	*Assignment 20:* Volumes of Revolution: Disks & Washers
	Wednesday	April 18	*Assignment 21:* Volumes of Revolution: Shells
14	Monday	April 23	*Assignment 22:* Moments & Centroids
	Wednesday	April 25	**Exam 4 (15%)**
	Thursday	April 26	*Last day to drop a class at SPC*
15	Monday	April 30	*Assignment 23:* Lengths of Plane Curves & Surface Area of Revolution
	Wednesday	May 2	*Assignment 24:* Work & Fluid Pressures
16	Monday	May 7	**Final Exam (20%) from 1:00-3:00pm**

Calculus I Tentative Course Outline
MATH 2413.002 (TR 8:30 – 10:35pm)
Spring 2018

Week	Day	Date	Lesson Topic & Assignment
1	Tuesday	January 16	*Assignment 1:* Functions
	Thursday	January 18	*Assignment 2:* Limits & Continuity
2	Tuesday	January 23	*Assignment 3:* Definition of Derivative
	Thursday	January 25	*Assignment 4:* Power, Product, & Quotient Rules
3	Tuesday	January 30	*Assignment 5:* Trigonometric Functions & Their Derivatives
	Thursday	February 1	*Assignment 6:* Chain Rule
4	Tuesday	February 6	**Exam 1 (15%)**
	Thursday	February 8	*Assignment 7:* Differentiation of some Transcendental Functions
5	Tuesday	February 13	*Assignment 8:* Implicit Differentiation
	Thursday	February 15	*Assignment 9:* Rates of Change
6	Tuesday	February 20	*Assignment 10:* Related Rates
	Thursday	February 22	*Assignment 11:* Curve Sketching: Maxima/Minima, Inflection, and Concavity
7	Tuesday	February 27	*Assignment 12:* Curve Sketching: Asymptotes
	Thursday	March 1	Review for Exam 2
8	Tuesday	March 6	**Exam 2 (15%)**
	Thursday	March 8	*Assignment 13:* Optimization (part 1 of 2)
Monday-Friday, March 12-16			*South Plains College Spring Break*
9	Tuesday	March 20	*Assignment 14:* Optimization (part 2 of 2)
	Thursday	March 22	*Assignment 15:* Integration with Indefinite Integrals
10	Tuesday	March 27	*Assignment 16:* Substitution Method
	Thursday	March 29	*Assignment 17:* Definite Integrals & The Fundamental Theorem of Calculus
11	Monday	April 2	*Easter Holiday*
	Tuesday	April 3	*Assignment 18:* Numerical Integration
	Thursday	April 5	*Assignment 19:* Area
12	Tuesday	April 10	**Exam 3 (15%)**
	Thursday	April 12	*Assignment 20:* Volumes of Revolution: Disks & Washers
13	Tuesday	April 17	*Assignment 21:* Volumes of Revolution: Shells
	Thursday	April 19	*Assignment 22:* Moments & Centroids
14	Tuesday	April 24	*Assignment 23:* Lengths of Plane Curves & Surface Area of Revolution
	Thursday	April 26	**Exam 4 (15%)** *Last day to drop a class at SPC*
15	Tuesday	May 1	*Assignment 24:* Work & Fluid Pressures
	Thursday	May 3	Review for comprehensive final exam
16	Tuesday	May 8	**Final Exam (20%) from 8:00-10:00am**