

South Plains College
Mathematics Department
Calculus II – MATH 2414
Course Syllabus
Fall 2017

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

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 2414. CALCULUS II. (4:3:2) Prerequisites: MATH 1316 (Trigonometry) and MATH 2413 (Calculus I). Topics covered include differentiation of transcendental functions, methods of integration, parametric equations, volumes, areas, arc lengths, surface areas, indeterminate forms, infinite series, and hyperbolic functions. (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: effective development, interpretation, and expression of ideas through written, oral, and visual communication.

- 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: creative thinking, innovation, inquiry, analysis, evaluation, and synthesis of information.

- 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: the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

- Manipulate and analyze numerical data and arrive at an informed conclusion
- Manipulate and analyze observable facts and arrive at an informed conclusion

Course Objectives: Successful completion of this course should reflect mastery of the following objectives.

1. Determine derivatives and antiderivatives of transcendental functions;
2. Evaluate integrals using methods of integration (integration by parts, trigonometric substitution, partial fraction decomposition, and integration tables);
3. Apply methods of integration to solve problems involving area, volumes of revolution, length of curves, surface area, center of mass, work, and fluid pressure;
4. Evaluate improper integrals;
5. Determine convergence or divergence of sequences and series;
6. Analyze power series for their interval of convergence;
7. Find Taylor (and Maclaurin) series representations of functions and their interval of convergence;
8. Compute area and length of graphs involving polar coordinates.

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 three major exams (20% 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)

Questions regarding Blackboard support may be emailed to blackboard@southplainscollege.edu.

Free tutoring and video tapes are available in room M116 on the Levelland campus and in Building 2 at the Reese Center. 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, videos, etc.).

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. For more information, call or visit the Disability Services Office in the Student Health & Wellness Office, 806-716-2577.

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.

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 II Tentative Course Outline
MATH 2414.001 (MW 8:30am – 10:35am)
MATH 2414.002 (MW 1:00 – 3:05pm)
Fall 2017

Week	Day	Date	Lesson
1	Monday	August 28	<i>Assignment 1: Inverse Functions</i>
	Wednesday	August 30	<i>Assignment 2: Natural Logarithms (Derivatives & Integration)</i>
2	Monday	September 4	<i>Labor Day holiday</i>
	Wednesday	September 6	<i>Assignment 3: Natural Logarithms (Logarithmic Differentiation & Applications)</i>
3	Monday	September 11	<i>Assignment 4: The Exponential Function</i>
	Wednesday	September 13	<i>Assignment 5: a^x and $\log_a x$</i>
4	Monday	September 18	<i>Assignment 6: Growth & Decay</i>
	Wednesday	September 20	<i>Assignment 7: Inverse Trigonometric Functions</i>
5	Monday	September 25	<i>Assignment 8: Derivatives & Integrals Involving Inverse Trigonometric Functions</i>
	Wednesday	September 27	<i>Assignment 9: Applications Involving Inverse Trigonometric Functions</i>
6	Monday	October 2	<i>Assignment 10: Hyperbolic Functions</i>
	Wednesday	October 4	Exam 1 (20%)
7	Monday	October 9	<i>Assignment 11: Basic Integration Formulas</i>
	Wednesday	October 11	<i>Assignment 12: Integration by Parts</i>
	Friday	October 13	<i>Fall Break (SPC closed)</i>
8	Monday	October 16	<i>Assignment 13: Powers of Trigonometric Functions</i>
	Wednesday	October 18	<i>Assignment 14: Trigonometric Substitutions</i>
9	Monday	October 23	<i>Assignment 15: Partial Fractions and Assignment 17: Integration Review</i>
	Wednesday	October 25	<i>Assignment 16: L'Hopital's Rule & Improper Integrals</i>
10	Monday	October 30	Exam 2 (20%)
	Wednesday	November 1	<i>Assignment 18: Sequences & Infinite Series</i>
11	Monday	November 6	<i>Assignment 19: Integral & Comparison Tests</i>
	Tuesday	November 7	<i>Online registration opens for the Winter Interim and Spring 2018 at 8:00am</i>
	Wednesday	November 8	<i>Assignment 20: Ratio & Root Tests; Alternating Series & Convergence</i>
12	Monday	November 13	<i>Assignment 21: Power Series</i>
	Tuesday	November 14	<i>Last day to drop a class at SPC</i>
	Wednesday	November 15	<i>Assignment 22: Taylor & Maclaurin Series</i>
13	Monday	November 20	<i>Assignment 23: Applications of Power Series</i>
	Wednesday	November 22	<i>Thanksgiving holiday</i>
14	Monday	November 27	Exam 3 (20%)
	Wednesday	November 29	<i>Assignment 24: Polar Coordinates and Area (part 1 of 2)</i>
15	Monday	December 4	<i>Assignment 25: Polar Coordinates and Area (part 2 of 2)</i>
	Wednesday	December 6	<i>Assignment 26: Polar Coordinates and Lengths of Curves</i>
16	Monday	December 11	Section 001 (MW8:30): Final Exam (20%) from 8:00-10:00am Section 002 (MW1:00): Final Exam (20%) from 1:00-3:00pm

