

South Plains College
Mathematics Department
Calculus II – MATH 2414
Course Syllabus
Spring 2018

Instructor: Jay Driver
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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 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%).

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 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 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 II Tentative Course Outline
MATH 2414.001 (MW 8:30am – 10:35am)
Spring 2018

Week	Day	Date	Lesson
1	Wednesday	January 17	<i>Assignment 1: Inverse Functions</i>
2	Monday	January 22	<i>Assignment 2: Natural Logarithms (Derivatives & Integration)</i>
	Wednesday	January 24	<i>Assignment 3: Natural Logarithms (Logarithmic Differentiation & Applications)</i>
3	Monday	January 29	<i>Assignment 4: The Exponential Function</i>
	Wednesday	January 31	<i>Assignment 5: a^x and $\log_a x$</i>
4	Monday	February 5	<i>Assignment 6: Growth & Decay</i>
	Wednesday	February 7	<i>Assignment 7: Inverse Trigonometric Functions & Their Derivatives</i>
5	Monday	February 12	<i>Assignment 8: Integrals Involving Inverse Trigonometric Functions</i>
	Wednesday	February 14	<i>Assignment 9: Applications Involving Inverse Trigonometric Functions</i>
6	Monday	February 19	<i>Assignment 10: Hyperbolic Functions</i>
	Wednesday	February 21	Exam 1 (20%)
7	Monday	February 26	<i>Assignment 11: Basic Integration Formulas</i>
	Wednesday	February 28	<i>Assignment 12: Integration by Parts</i>
8	Monday	March 5	<i>Assignment 13: Powers of Trigonometric Functions</i>
	Wednesday	March 7	<i>Assignment 14: Trigonometric Substitutions</i>
Monday-Friday, March 12-16			<i>South Plains College Spring Break</i>
9	Monday	March 19	<i>Assignment 15: Partial Fractions and Assignment 16: Integration Review</i>
	Wednesday	March 21	<i>Assignment 17: L'Hopital's Rule & Improper Integrals</i>
10	Monday	March 26	Exam 2 (20%)
	Wednesday	March 28	<i>Assignment 18: Sequences & Infinite Series</i>
11	Monday	April 2	<i>Easter Holiday</i>
	Wednesday	April 4	<i>Assignment 19: Integral & Comparison Tests</i>
12	Monday	April 9	<i>Assignment 20: Ratio & Root Tests; Alternating Series & Convergence</i>
	Wednesday	April 11	<i>Assignment 21: Power Series</i>
13	Monday	April 16	<i>Assignment 22: Taylor & Maclaurin Series</i>
	Wednesday	April 18	<i>Assignment 23: Applications of Power Series</i>
14	Monday	April 23	Exam 3 (20%)
	Wednesday	April 25	<i>Assignment 24: Polar Coordinates and Area (part 1 of 2)</i>
	Thursday	April 26	<i>Last day to drop a class at SPC</i>
15	Monday	April 30	<i>Assignment 25: Polar Coordinates and Area (part 2 of 2)</i>
	Wednesday	May 2	<i>Assignment 26: Polar Coordinates and Lengths of Curves</i>
16	Monday	May 7	Final Exam (20%) from 8:00-10:00am