South Plains College
Mathematics Department
Calculus II – MATH 2414
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 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 or by telephone to 806-716-2180.

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 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 II Tentative Course Outline
MATH 2414.001 (MW 8:30am – 10:35am)
Fall 2016

Week	Day	Date	Lesson
1	Monday	August 29	Assignment 1: Inverse Functions
	Wednesday	August 31	Assignment 2: Natural Logarithms (Derivatives & Integration)
2	*Monday*	*September 5*	*Labor Day Holiday*
	Wednesday	September 7	Assignment 3: Natural Logarithms (Logarithmic Differentiation & Applications)
3	Monday	September 12	Assignment 4: The Exponential Function
	Wednesday	September 14	Assignment 5: a^x and $\log_a x$
4	Monday	September 19	Assignment 6: Growth & Decay
	Wednesday	September 21	Assignment 7: Inverse Trigonometric Functions
5	Monday	September 26	Assignment 8: Derivatives & Integrals Involving Inverse Trigonometric Functions
	Wednesday	September 28	Assignment 9: Applications Involving Inverse Trigonometric Functions
6	Monday	October 3	Assignment 10: Hyperbolic Functions
	Wednesday	October 5	**Exam 1 (20%)**
7	Monday	October 10	Assignment 11: Basic Integration Formulas
	Wednesday	October 12	Assignment 12: Integration by Parts
	Friday	*October 14*	*SPC Fall Break (all offices closed)*
8	Monday	October 17	Assignment 13: Powers of Trigonometric Functions
	Wednesday	October 19	Assignment 14: Trigonometric Substitutions Assignment 17: Integration Review (due on day of Exam 2)
9	Monday	October 24	Assignment 15: Partial Fractions
	Wednesday	October 26	Assignment 16: L'Hopital's Rule & Improper Integrals
10	Monday	October 31	**Exam 2 (20%)**
	Wednesday	November 2	Sequences & Infinite Series
11	Monday	November 7	Integral & Comparison Tests
	Wednesday	November 9	Ratio & Root Tests; Alternating Series & Convergence
	Thursday	*November 10*	*Online Registration for Spring Semester Opens at 8:00am*
12	Monday	November 14	Power Series
	Wednesday	November 16	Taylor & Maclaurin Series
	Thursday	*November 17*	*Last Day to Drop Fall Semester Courses*
13	Monday	November 21	**Exam 3 (20%)**
	Wednesday	*November 23*	*Thanksgiving break November 23-25*
14	Monday	November 28	Applications of Power Series
	Wednesday	November 30	Polar Coordinates and Area (part 1 of 2)
15	Monday	December 5	Polar Coordinates and Area (part 2 of 2)
	Wednesday	December 7	Polar Coordinates and Lengths of Curves
16	Monday	December 12	**Final Exam (20%)** from 8:00-10:00am