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

Instructor: Jay Driver
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Office Hours: MW 3:00-4:00pm
TR 11:00am-12:00pm, 3:05-3:35pm
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 three consecutive classes or if you exceed five 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 all 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.

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 is available in room M116 at the Levelland campus or in Building 2 at the Reese Center. 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.

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.

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)
Fall 2018

Week	Day	Date	Lesson
1	Mon	Aug 27	*Assignment 1:* Inverse Functions
	Wed	Aug 29	*Assignment 2:* Natural Logarithms (Derivatives & Integration)
2	Mon	Sep 3	*Labor Day Holiday*
	Wed	Sep 5	*Assignment 3:* Natural Logarithms (Logarithmic Differentiation & Applications)
3	Mon	Sep 10	*Assignment 4:* The Exponential Function
	Wed	Sep 12	*Assignment 5:* a^x and $\log_a x$
4	Mon	Sep 17	*Assignment 6:* Growth & Decay
	Wed	Sep 19	*Assignment 7:* Inverse Trigonometric Functions & Their Derivatives
5	Mon	Sep 24	*Assignment 8:* Integrals Involving Inverse Trigonometric Functions
	Wed	Sep 26	*Assignment 9:* Applications Involving Inverse Trigonometric Functions
6	Mon	Oct 1	*Assignment 10:* Hyperbolic Functions
	Wed	Oct 3	**Exam 1 (20%)**
7	Mon	Oct 8	*Assignment 11:* Basic Integration Formulas
	Wed	Oct 10	*Assignment 12:* Integration by Parts
	Fri	Oct 12	*SPC Fall Break (all offices closed)*
8	Mon	Oct 15	*Assignment 13:* Powers of Trigonometric Functions
	Wed	Oct 17	*Assignment 14:* Trigonometric Substitution
9	Mon	Oct 22	*Assignment 15:* Partial Fractions *and Assignment 16:* Integration Review
	Wed	Oct 24	*Assignment 17:* L'Hopital's Rule & Improper Integrals
10	Mon	Oct 29	**Exam 2 (20%)**
	Wed	Oct 31	*Assignment 18:* Sequences & Infinite Series
11	Mon	Nov 5	*Assignment 19:* Integral & Comparison Tests
	Wed	Nov 7	*Assignment 20:* Ratio & Root Tests; Alternating Series & Convergence
12	Mon	Nov 12	*Assignment 21:* Power Series *Online Registration Opens for Winter and Spring Semesters*
	Wed	Nov 14	*Assignment 22:* Taylor & Maclaurin Series
	Thur	Nov 15	*Last day to drop a class at SPC*
13	Mon	Nov 19	*Assignment 23:* Applications of Power Series
	Wed-Fri	Nov 21-23	*Thanksgiving holiday*
14	Mon	Nov 26	**Exam 3 (20%)**
	Wed	Nov 28	*Assignment 24:* Polar Coordinates and Area (part 1 of 2)
15	Mon	Dec 3	*Assignment 25:* Polar Coordinates and Area (part 2 of 2)
	Wed	Dec 5	*Assignment 26:* Polar Coordinates and Lengths of Curves
16	Mon	Dec 10	**Final Exam (20%) from 8:00-10:00am**