MATH 2414
Calculus II

Credit: 4
Contact Hours: 60
Class Days: Monday to Friday, June 29th , 2020 to July 31st, 2020
Instructor: TBA
Email: TBA
Office Hours: By appointment

Course Description
Calculus II is the continuing study of integration and the many techniques and applications available to you. It is a virtual fountain of information you will use in your future courses and careers.

Course Objectives
Upon successful completion of the course, the students will be able to:
1. Apply the idea of integral to solve geometric problems such as areas between curves, volumes of solids, lengths of plane curve, and surface areas of solids;
2. Find the derivatives and anti-derivatives of exponential, logarithmic, and inverse trigonometric functions;
3. Find indeterminate limits using the L'Hopital's rules ;
4. Solve integrals by applying techniques such as integration by parts, trigonometric substitutions, and partial fractions;
5. Calculate definite integrals by ways of substitutions and be able to apply it in various physical situations;
6. Determine convergence/divergence of infinite series by various tests;
7. Express certain elementary functions as power series.

Program Learning Outcomes
Program outcomes related to this course:
1. Display competence with mathematical skills at the appropriate level

Course Materials (Text, calculator, etc.)
Thomas' Calculus, 12th Edition, by George B. Thomas Jr., Addison-Wesley, ISBN-10 0321587995, ISBN-13 9780321587992

Grading Scale

Letter Grade	Grade Percentage
A	90% - 100%
B	80% - 89%
C	70% - 79%
D	60% - 69%
F	59% - 0%

Course Grading Policies

Your final grade of this course will be a weighted average on the scale listed above. The Weighted Average will be calculated as follows:

3 chapter examinations	60%
Homework	20%
A comprehensive final examination	20%
Total	**100%**

Course Assignment, Examination, and or Project Policies

Homework

Please expect homework every day. Although homework "only" counts for 20% of the coursework, **all** exam questions will be similar to some of the homework problems. Homework must be done neatly and in order, with detailed work shown in order to receive full credit. To provide you with feedback on your work, homework will be collected on every Monday and five selected problems will be graded at up to 20 points each. The grading scale is: 20 points if correct, 10 points if wrong, and 0 points if not attempted or for just an answer with no work shown. Thus, if you turn in your assignment complete, the lowest grade you can make on that assignment is a 50. **Absolutely no late homework will be accepted.**

Exams

There are 3 chapter exams in this course as well as a comprehensive final. The chapter exams approximately correspond to each chapter 6 through 10 of the textbook. I will notify you the exam date at least 1 week prior, although the tentative exam dates are posted below in the calendar. There are absolutely no makeup exams, but if you know you will be out of town on a test date, you may make arrangements to take it early.

Tentative Course Schedule

This is a tentative course schedule, the instructor reserves the right to make changes on it to make it better for the student`s development. Notice will be given should any changes take place.

Date	Required Readings	Assignment Due Dates
June 29	Course Introduction, Inverse Functions and their Derivatives	
June 30	Natural Logarithms	Section 7.1 HW
July 1	Exponential Functions	Section 7.2 HW
July 2	Inverse Trigonometric Functions	*Section 7.3 HW*
July 3	Using Basic Integration Formulas	Section 7.6 HW
July 6	Integration by Parts	Section 8.1 HW
July 7	Exam 1 (Sections 7.1, 7.2, 7.3, 7.6 and 8.1)	
July 8	Trigonometric Integrals	Section 8.2 HW
July 9	Trigonometric Substitutions	Section 8.3 HW
July 10	Integration of Rational Functions by Partial Fractions	*Section 8.4 HW*
July 13	Volumes using cross-sections	Section 8.5 HW
July 14	Volumes using cylindrical shells	Section 6.1 HW
July 15	Work and Fluid Forces	Section 6.2 HW

July 16	Exam 2 (Sections 6.1, 6.2 and 8.2-8.5)	
July 17	Indeterminate Forms and L'Hopital's Rule	Section 6.5 HW
July 20	Improper Integrals	Section 7.5 HW
July 21	Sequences	Section 8.8 HW
July 22	Infinite Series	Section 10.1 HW
July 23	The Integral Test	Section 10.2 HW
July 24	Exam 3 (Sections 6.5, 7.5, 8.8, 10.1, and 10.2)	
July 27	The Comparison Tests	Section 10.3 HW
July 28	Absolute Convergence; The Ratio and Root Tests	Section 10.4 HW
July 29	Alternating Series and Conditional Convergence	Section 10.5 HW
July 30	Power, Maclaurin, and Taylor Series	Section 10.6 HW
July 31	Final Exam (Sections 6.1, 6.2, 6.5, 7.1-7.3, 7.5, 7.6, 8.1-8.5, 8.8, and 10.1-10.9)	

Policies and Responsibilities

Your Role as a Student in this Course –

Just to be clear about my expectations of you. I expect to:

1. Come to class every day. Calculus is five days a week because we really like you!
2. Come to class prepared to work! Take advantage of the time we have together.
3. Please treat all participants, both myself and your classmates, with respect.
4. Complete or at least attempt to complete your homework each day.
5. If you get home and find you cannot work the problems, come to my office, e-mail me, ask the teaching assistant, call a friend from class. This course builds. If you do not understand a concept the next day will only be worse!
6. You should spend at least twice the amount of time you are in class each week doing homework.
7. Absolutely no late homework will be accepted.
8. Put your cell phone in your backpack and leave it there. You have paid for this course, get the most out of the experience by giving it your full attention for one hour a day. Plus, it is a distraction for other people.

Academic Integrity

All work must be completed individually unless otherwise stated. Commission of any of the following acts shall constitute scholastic dishonesty: acquiring or providing information for any assigned work or examination from any unauthorized source; informing any person or persons of the contents of any examination prior to the time the exam is given in any subsequent sections of the course or as a makeup; plagiarism; submission of a paper or project that is substantially the same for two courses unless expressly authorized by the instructor to do so. For more information, see the Code of Student Life.

Acceptable Student Behavior

Classroom behavior should not interfere with the instructor's ability to conduct the class or the ability of other students to learn from the instructional program (Code of Student Life). Unacceptable or disruptive behavior will not be tolerated. Students engaging in unacceptable behavior may be instructed to leave the classroom. Inappropriate behavior may result in disciplinary action or referral to the University's Behavioral Intervention

Team. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc.

Attendance Policy

For the purposes of learning assessment and strategic planning, all students enrolled in Core Curriculum or developmental courses at West Texas A&M University must swipe their Buff Gold cards through the card reader installed in the classroom/lab for each class/lab meeting. Any students with more than three unexcused absences will automatically fail the course.

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