

Math 2200 - Differential Calculus

Instructor: Kenyon Platt

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Office Hours: Tue: 1:00 p.m. - 2:30 p.m.

Class Room: Boyd, Room 303

Time: MWF: 8:00 a.m. - 8:50 a.m.

Text: Edwards & Penny, *Calculus: Early Transcendentals Version*, 6th Edition

Thurs: 3:30 p.m. - 5:00 p.m.

Content: We will cover chapters 2-4 and some of chapter 5 and chapter 8 of Edwards and Penny. I have included on the back a schedule of topics and suggested problems for each topic.

Grading: Grading will be based on the following:

Participation: (2.5 points) * (40 days) = 100 points (There are 45 days of classes)

Quizzes: (15 points) * (11 quizzes) - (1 quiz) = 150 points

Exams: (100 points) * (3 exams) = 300 points

Final Exam: (200 points) * (1 exam) = 200 points

Total: 750 points

Grades will be assigned based on percentage, i.e. (points earned / total points) * 100

A - 90% - 100%

C - 70% - 79%

F - 0% - 59%

B - 80% - 89%

D - 60% - 69%

Quizzes and Tests: There will be 11 quizzes during the semester, generally once a week on Friday during last 15 minutes of class. The quiz problems will be taken *directly* from the set of suggested problems for the topics we cover that week. One quiz will be dropped, and therefore there will be *no make-up quizzes given*. There will be three in-class exams. Questions on the exams will test for understanding of the concepts and ability to do the applications. The problems will be similar to the assigned problems and you will also be responsible for anything we discuss in class. The final exam is comprehensive and counts 200 points toward your grade. You may use calculators on tests and quizzes. To receive full credit on any problem, you must write your solutions in a logical manner, using sentences to explain your process.

Participation: I will award students who come to class and participate appropriately 100 participation points, 2.5 points each day. To earn all of the points, you must attend at least 40 out of the 45 class days in the semester.

Homework: You should work out as many of the assigned problems from the back as you can after we cover it in class. I strongly recommend that you come to my office during office hours to discuss anything from class or in the problem sets with which you are having difficulties.

Other: The midpoint withdrawal deadline is Tuesday, March 8. The Final Exam is scheduled for Monday, May 9 from 8 a.m. to 11 a.m. I reserve the right to make any necessary changes to this syllabus, and in this event, will discuss any changes at the beginning of class.

Academic Honesty: All students are responsible for knowing the University's policy on academic honesty. All academic work submitted in this course must be your own unless you have received my permission to collaborate. It is my responsibility to uphold the University's academic honesty policy and report my suspicions of dishonesty to the Office of the Vice President for instruction.

Sec	Topic	Suggested Problems
2.1	Motivation: Tangent Lines to Graphs	p. 62: 1, 5, 7, 8, 9, 11, 19, 21, 33, 34, 28
2.2 2.3	Limits of functions	p. 73: 1, 2, 3, 5, 6, 9, 13, 17, 19, 25, 29, 31, 33; p. 99: 5, 6 p. 85: 1, 3, 5, 7, 9, 15, 17, 19, 29, 37, 39, 41, 45, 49, 51, 56, 59, 60
2.4	Continuity and the Intermediate Value Theorem	p. 97: 1, 3, 5, 7, 9, 15, 19, 25, 33, 35, 53, 55, 58, 59; p. 99: 11, 17, 21, 27, 29, 61, 63
3.1	The Derivative	p. 112: 3, 5, 9, 11, 15, 17, 19, 21, 23, 25, 27, 29, 30, 31, 32, 33, 34, 35, 37, 39, 41, 42, 44, 45, 47, 50, 51, 52, 53
3.2	Rules of Differentiation	p. 123: 1, 3, 5, 13, 15, 17, 19, 27, 31, 35, 43, 44, 45, 46, 47, 51, 53, 55, 56, 57, 59 p. 73: 41, 43, 45
	Exam I: February 9	
3.3	The Chain Rule	p. 132: 1, 3, 7, 9, 11, 13, 17, 21, 25, 29, 49, 51, 53, 55, 57, 59, 61
3.4	The Generalized Power Rule	p. 138: 1, 9, 19, 33, 39, 63, 65
3.5	Maxima and Minima on Closed Intervals	p. 148: 11, 13, 17, 19, 33, 35, 37, 39, 47, 48, 49, 50, 51, 52
3.6	Application: Optimization problems on Closed intervals	p. 159: 1, 3, 5, 9, 11, 13, 19, 21, 25, 27, 29, 31, 33, 45, 47
3.7	Derivatives of Trigonometric Functions	p. 171: 1, 3, 5, 9, 11, 13, 15, 41, 43, 51, 59, 67, 72, 73, 75, 77
3.8	Derivatives of Exponential and Logarithmic Functions	p. 187: 1, 3, 5, 7, 9, 17, 19, 23, 33, 37, 47, 59, 61
	Exam II: March 11	
3.9	Implicit Differentiation	p. 195: 3, 7, 11, 13, 19, 23, 25, 31
3.9	Related Rates	p. 196: 38, 39, 43, 45, 47, 51, 53, 55, 56, 57, 61, 68
4.2	Linear Approximations	p. 225: 17, 21, 23, 25, 29, 33
4.3	The Mean Value Theorem	p. 235: 1, 3, 5, 7, 8, 9, 10, 13, 19, 21, 41, 43, 45, 46, 47
4.4	The First Derivative Test	p. 245: 1, 3, 5, 11, 15, 19, 21, 23
4.4	Application: Optimization Problems on Open Intervals	p. 245: 27, 29, 33, 35, 40, 43, 45, 55 p. 299: 83
4.6	Higher Order Derivatives	p. 268: 1, 9, 15, 23, 29, 35, 77, 78, 79, 80, 81, 82
4.5 4.6 4.7	Sketching Curves	p. 255: 3, 4, 7, 11, 19, 23, 43, 45, 51, 53 p. 269: 65, 69, 75 p. 281: 1, 3, 21, 25, 35, 41, 49
	Exam III: April 20	
5.2	Anti-Derivatives and Differential Equations	p. 281: 1, 5, 9, 13, 17, 23, 27, 19, 21, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 61, 65, 69, 71, 75, 77, 78, 79
8.3	Differential Equations: Separation of Variables	p. 576: 3, 7, 11, 15, 17, 31, 32, 41
	Final Exam: May 9, 8 a.m. - 11 a.m.	