

Math 1225: Calculus of a Single Variable I
Fall 2019

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Office Hours:	M 12:30pm - 2:30pm, Th 11:00am - 1:00pm other times by appointment		
Text:	<i>Calculus: Early Transcendentals</i> , 8th ed. by Stewart (w/ WebAssign access)		
Course Website:	http://intranet.math.vt.edu/courses/math1225		
WebAssign Site:	https://www.webassign.net/login.html		

Course Content:

Limits, continuity, differentiation, transcendental functions, applications of differentiation, introduction to integration.

Per Math Department policy, no further specifics of this course policy sheet may be made publicly available.

Tentative Schedule

- Week 1** §2.1 - The Tangent and Velocity Problems
 §2.2 - The Limit of a Function
 §2.3 - Calculating Limits Using the Limit Laws
- Week 2** Labor Day
 §2.3 - Calculating Limits Using the Limit Laws
 §2.4 - The Precise Definition of a Limit
- Week 3** §2.5 - Continuity
 §2.6 - Limits at Infinity; Horizontal Asymptotes
- Week 4** Exam 1 Review
 Exam 1
 §2.7 - Derivatives and Rates of Change
 §2.8 - The Derivative as a Function
 §3.1 - Derivatives of Polynomials and Exponentials
- Week 5** §3.2 - The Product and Quotient Rules
 §3.3 - Special Trig Limits and Derivatives of Trigonometric Functions
 §3.4 - The Chain Rule
- Week 6** §3.5 - Implicit Differentiation
 §3.6 - Derivatives of Logarithmic Functions
 Fall Break
- Week 7** §3.6 - Derivatives of Logarithmic Functions
 §3.7 - Rates of Change in the Natural Sciences
 §3.9 - Related Rates
- Week 8** Exam 2 Review
 Exam 2
 §3.10 - Linear Approximation and Differentials
 §4.8 - Newton's Method
- Week 9** §4.1 - Maximum and Minimum Values
 §4.2 - The Mean Value Theorem
 §4.3 - How Derivatives Affect the Shape of a Graph
- Week 10** §4.3 - How Derivatives Affect the Shape of a Graph
 §4.5 - Summary of Curve Sketching
 §4.7 - Optimization Problems
- Week 11** Exam 3 Review
 Exam 3
 §4.7 - Optimization Problems
 §4.9 - Antiderivatives

§5.1 - Areas and Distances

Week 12 §5.1 - Areas and Distances
§5.2 - The Definite Integral
§5.3 - The Fundamental Theorem of Calculus

Week 13 §5.4 - Indefinite Integrals and the Net Change Theorem
§5.5 - The Substitution Rule

Week 14 Thanksgiving Break

Week 15 §5.5 - The Substitution Rule
Final Exam Review

Week 16 Final Exam Review