

Course & Name: Math 21A: Differential Calculus

Recommended Text(s) & Price: Thomas' Calculus: Early Transcendentals, 12th Edition (\$185.33)

Fall 2010

Lecture(s)	Sections	Comments/Topics
1	1.1-1.6	Review chapter one. Cover definitions of exponential functions, inverse functions, and logarithms. Okay to skip and refer to as needed.
1	2.1	Rates of change and tangents to curves
1	2.2	Limit of a function and limit laws
1	2.3	Precise definition of limit
1	2.4	One-sided limits
1.5	2.5	Continuity
1.5	2.6	Limits involving infinity; asymptotes of graphs
0.5	3.1	Tangents and the derivative at a point
1	3.2	The derivative as a function
1.5	3.3	Differentiation rules
1	3.4	The derivative as a rate of change
0.5	3.5	Derivatives of trigonometric functions
1.5	3.6	The Chain Rule
1	3.7	Implicit differentiation
1	3.8	Derivatives of inverse functions and logarithms
1	3.9	Inverse trigonometric functions
1	3.10	Related rates
1	3.11	Linearization and differentials
1	4.1	Extreme values of functions
1	4.2	The Mean Value Theorem
1	4.3	Monotonic functions and the first derivative test
1	4.4	Concavity and curve sketching
1	4.5	Indeterminate forms and L'Hopital's Rule (omit proof)
1	4.6	Applied optimization
1	4.7	Newton's method

Total number of lectures = 26. This leaves time for exams and lecture time adjustments. If time seems short consider omitting the review of chapter one and weaving in the material as necessary. If time begins to run out, section 3.9 is lower priority.