



AP Calculus 1 Outline

			Topic	Larson Text	Timeline			
First Semester	Unit 1: Limits and Their Properties	A	Finding Limits Graphically and Numerically	1.2	Sept. 11-29 (3 wks)			
		B	Evaluating Limits Analytically	1.3				
		C	Continuity and One-Sided Limits	1.4				
		D	Infinite Limits	1.5				
	Unit 2: Differentiation	A	The Derivative and the Tangent Line Problem	2.1	Oct. 2 – Nov. 9 (6 wks.)			
		B	Basic Differentiation Rules and Rates of Change	2.2				
		C	Product and Quotient Rules and Higher-Order Derivatives	2.3				
		D	The Chain Rule	2.4				
		E	Derivatives of Logarithms and Exponentials	5.1, 5.4				
		F	Derivatives of trigonometric Functions	5.6				
	Differentiation Gate Exam							
	Unit 3: Applications of Differentiation	A	Extrema on an Interval	3.1	Nov. 13 – Dec. 15 (4.5 wks)			
		B	Rolle's Theorem and the Mean Value Theorem	3.2				
		C	Increasing and Decreasing Functions and the First Derivative Test	3.3				
		D	Concavity, the Second Derivative Test, and Curve Sketching	3.4, 3.6				
		E	Limits at Infinity and L'Hospital's rule.	3.5				
F		Related Rates	2.6					
G	Optimization Problems	3.7						
Unit 4: Integration	A	Antiderivatives and Indefinite Integration	4.1	Jan 2 – 25 (4 wks)				
	B	Area	4.2					
	C	Riemann Sums and Definite Integrals	4.3					
	D	The Fundamental Theorem of Calculus	4.4					
	E	Integration by Substitution	4.5					
	F	Numerical Integration	4.6					
Second Semester	Unit 5: Integrating Transcendental Functions	A	The Natural Logarithmic Function: Integration	5.2	Jan 29 – Feb. 16 (3 wks.)			
		B	Inverse Functions	5.3				
		C	Exponential Functions: Integration	5.4, 5.5				
		D	Inverse Trigonometric Functions: Integration	5.7				
	Integral Gate Exam							
	Unit 6: Differential Equations	A	Slope Fields and Euler's Method	6.1	Feb. 26 - Mar. 15 (3 wks.)			
		B	Differential Equations: Growth and Decay	6.2				
		C	Separation of Variables	6.3				
		D	First-Order Linear Differential Equations	6.4				
Unit 7: Applications of Integration	A	Area of a Region Between Two Curves	7.1	March 19- April 13 (3 wks.)				
	B	Volume: The Disk Method	7.2					
	C	Volume: The Shell Method	7.3					
AP Review and Exam					April 16- May 18 (5 wks.)			
Final Calculus Projects					May 21 - June 13 (3.5 wks.)			