Unit 3 –Differentiation

DAY	Topic	Student worksheet	Lecture -- Class notes	Follow-up	Homework (from text unless otherwise noted)	AP Free Response	Assessment
1	The Derivative	3.1	The Derivative CN 3.1		10 or so problems on finding tangent lines by estimating slope and by evaluating the limit of the difference quotient		
2	Differentiability		Differentiability CN 3.2	Homework Q&A	15 or so problems on finding tangent lines, finding points of non-differentiability, and relating the derivative to the graph of a function		
3	Rules of Differentiation		Rules of Differentiation CN 3.3	Homework Q&A	25 or so problems on finding the derivative of simple functions using the rules of differentiation.		
4	Trigonometric Functions		Derivative of Trigonometric Functions CN 3.4	Homework Q&A	25 or so problems on finding the derivative of trigonometric and other simple functions using the rules of differentiation.		
5	Rates of Change		Rates of Change CN 3.5	Homework Q&A	15 or so problems on the application of the derivative as a rate of change.		
6	Piecewise Derivatives	3.2	Piecewise Derivatives CN 3.6	Homework Q&A	5 or so problems reviewing differentiation plus worksheet 3.2	1986 AB4	

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7	Linear Motion	3.3 3.4	Linear Motion CN 3.7	Homework Q&A	5 or so problems on the application of the derivative to motion and 1996 AB6	1983 AB2 1996 AB6	
8	Product and Quotient Rule		Product and Quotient Rule CN 3.8	Homework Q&A	15 or so problems on finding the derivative of functions that involve products and quotients.		Take up and grade 1996 AB6
9	Applications			Homework Q&A	10 or so more problems on finding derivatives of more complex expression and AP question 1985 AB1	1984 AB2 1985 AB1	
10	Higher Order Derivatives		Higher Order Derivatives CN 3.10	Homework Q&A	10 or so problems on finding the higher order derivatives and applying them to applications.		Take up and grade 1985 AB1
11	Chain Rule		Introduction to Chain Rule CN 3.11	Homework Q&A	15 or so problems on using the chain rule to evaluate the derivative		
12	Chain Rule		Applications of Chain Rule CN 3.12	Homework Q&A	AP free response questions 1990 BC-1 1991 AB-3	1987 AB-2 1988 AB-1 1990 BC-1 1991 AB-3	
13	Review			Homework Q&A			Take up and grade 1991 AB-3
14	Test						Test

Unit 4 – <u>Review of Limits and Differentiation</u>

DAY	Topic	Student worksheet	Lecture -- Class notes	Follow-up	Homework (from text unless otherwise noted)	AP Free Response	Assessment
1	Limits	2.1	Limits CN 4.1		15 or so problems on basic ideas of limits		
2	Continuity	2.2	Continuity CN 4.2	Homework Q&A	15 or so problems on continuity		
3	Intro to the Derivative		The Derivative CN 4.3	Homework Q&A	4 or so problems on basic ideas of derivative and 10 or so on finding simple derivatives		
4	Rules of Differentiation	3.1	Differentiability CN 4.4	Homework Q&A	10 or so problems on basic derivative rules and average rate of change plus AP question 1983 AB - 2	1996 AB – 6 1983 AB – 2	
5	Applications of Derivative	3.2 3.3	Applications of Derivative CN 4.5	Homework Q&A (not AP question)	10 or so on taking derivatives, geometric interpretation and applications to motion plus AP question 1984 AB	1984 AB – 2	Take up and grade 1983 AB - 2
6	Chain Rule		Chain Rule CN 4.6	Homework Q&A Review 83 AB-2	10 or so problems involving increasingly difficulty chain rule derivatives		Take up and grade 1984 AB - 2
7	Review			Homework Q&A Unit Objectives			
8	Test						Test