Mathematics
Advanced Placement Calculus AB

Date Taught	AP Required Elements	Content/Vocabulary	Guiding Questions	Activities	Resources
Unit 1: Limits and Their Properties			**1st 6 Weeks**		
	Analysis of graphs With the aid of technology, graphs of functions are often easy to produce. The emphasis is on the interplay between the geometric and analytic information and on the use of calculus both to predict and to explain the observed local and global behavior of a function.	Students will be able to understand what calculus is and how it compares to pre-calculus and that calculus was discovered in order to solve the tangent line and the area problem.	What is Calculus?	1.1 A Preview of Calculus	**District Resources** Larson <u>Calculus</u> Graphing Calculators HM mathSpace Student CD-ROM Instructional DVDs and Videotapes Complete Solutions Guide Instructor's Resource Manual Fast Track to a 5 HM ClassPrep with HM Testing CD-ROM **Internet Resources** MISD Mathematics Web Site AP Central EduSpace CalcChat Larson Calculus **Manipulatives** Mobius Strip CBR's **Campus Resources** To be filled in by each campus
	Limits of functions (including one-sided limits) ❖ An intuitive understanding of the limiting process ❖ Calculating limits using algebra ❖ Estimating Limits from graphs or tables of data	Students will learn different ways that a limit can fail to exist and will be able to estimate a limit both numerically & graphically.	How do you estimate a limit both numerically and graphically? When does a limit fail to exist?	1.2 Finding Limits Graphically & Numerically	
	Asymptotic and unbounded behavior ❖ Understanding asymptotes in terms of graphical behavior ❖ Describing asymptotic behavior in terms of limits involving infinity	Students will be able to develop and use different strategies for finding limits.	What strategy should be used to find a limit?	1.3 Evaluating Limits Analytically	
	❖ Comparing relative magnitudes of functions and their rates of change (for example, contrasting exponential growth, polynomial growth, and logarithmic growth)	Students will be able to understand continuity and how it applies to the Intermediate Value Theorem as well as determining one-sided limits.	When can the Intermediate Value Theorem be applied? When is a function continuous?	1.4 Continuity & One-Sided Limits	
	Continuity as a property of functions ❖ An intuitive understanding of continuity. (The function values can be made as close as desired by taking sufficiently close values of the domain.)	Students will be able to determine infinite limits and how it relates to vertical asymptotes.	How do you determine the behavior of a function as it approaches a vertical asymptote from both the left and right sides?	1.5 Infinite Limits	
	❖ Understanding continuity in terms of limits ❖ Geometric understanding of graphs of continuous functions (Intermediate Value Theorem and the Extreme Value Theorem)	Students will be able to determine limits at infinity and how that relates to horizontal asymptotes.	How do you find the end behavior of a function?	3.5 Limits at Infinity	

Unit 1: Limits and Their Properties			1st 6 Weeks		
Date Taught	AP Required Elements	Content/Vocabulary	Guiding Questions	Activities	Resources
		limit one-sided limit oscillating behavior unbounded behavior secant line tangent line average rate of change instantaneous rate of change continuity points of discontinuity jump discontinuity removable discontinuity nonremovable discontinuity Intermediate Value Theorem			

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Unit 2: Differentiation			1st 6 Weeks		
Date Taught	**AP Required Elements**	**Content/Vocabulary**	**Guiding Questions**	**Activities**	**Resources**
	Concept of the Derivative ❖ Derivative presented graphically, numerically & analytically ❖ Derivative interpreted as an instantaneous rate of change ❖ Derivative defined as the limit of the difference quotient ❖ Relationship between differentiability and continuity **Derivative at a point** ❖ Slope of a curve at a point. Examples are emphasized, including points at which there are vertical tangents and points at which there are no tangents. ❖ Tangent line to a curve at a point and local linear approximation ❖ Instantaneous rate of change as a limit of average rate of change ❖ Approximate rate of change from graphs and tables of values **Application of derivatives** ❖ Modeling rates of change, including related rates problems ❖ Interpretation of the derivative as a rate of change in varied applied contexts, including, velocity, acceleration and speed ❖ Equations involving derivatives. Verbal descriptions are translated into equations involving derivatives and vice versa.	Students will be able to find the slope of a tangent line to a curve at a point using the limit definition of a derivative. Students will be able to find the derivative of a function using basic differentiation rules and use derivatives to find rates of change. Students will be able to find the derivative of a function using the product and quotient rules. Students will be able to find the derivative of trigonometric functions and higher order derivatives. Students will be able to find derivatives using the chain rule.	From where does the limit definition come? How do you find derivatives using basic differentiation rules? How do you find higher order derivatives using basic differentiation rules? When do you use the product and quotient rules? How do you recognize and find the derivative of a composition function?	2.1 The Derivative and the Tangent Line Problem 2.2 Basic Differentiation Rules and Rates of Change 2.3 Product and Quotient Rules and Higher Order Derivatives 2.4 The Chain Rule	**District Resources** Larson Calculus Graphing Calculators HM mathSpace Student CD-ROM Instructional DVDs and Videotapes Complete Solutions Guide Instructor's Resource Manual Fast Track to a 5 HM ClassPrep with HM Testing CD-ROM **Internet Resources** MISD Mathematics Web Site AP Central EduSpace CalcChat Larson Calculus **Manipulatives** Balloons, Funnels, and "Little Ladders" (6-inch Rulers) **Campus Resources** To be filled in by each campus

Unit 2: Differentiation			1st 6 Weeks		
Date Taught	**AP Required Elements**	**Content/Vocabulary**	**Guiding Questions**	**Activities**	**Resources**
	Computation of Derivatives ❖ Basic rules for the derivative of sums, products and quotients of functions ❖ Chain Rule and Implicit Differentiation	**tangent line** **secant line** **difference quotient** **derivative** **differentiate** **higher order derivative** **chain rule** **implicit function** **explicit function** **implicit differentiation** **related rate**			

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Unit 2: Differentiation			2nd 6 Weeks		
Date Taught	AP Required Elements	Content/Vocabulary	Guiding Questions	Activities	Resources
	Concept of the Derivative ❖ Derivative presented graphically, numerically & analytically ❖ Derivative interpreted as an instantaneous rate of change ❖ Derivative defined as the limit of the difference quotient ❖ Relationship between differentiability and continuity **Derivative at a point** ❖ Slope of a curve at a point. Examples are emphasized, including points at which there are vertical tangents and points at which there are no tangents. ❖ Tangent line to a curve at a point and local linear approximation ❖ Instantaneous rate of change as a limit of average rate of change ❖ Approximate rate of change from graphs and tables of values **Application of derivatives** ❖ Modeling rates of change, including related rates problems ❖ Interpretation of the derivative as a rate of change in varied applied contexts, including, velocity, acceleration and speed ❖ Equations involving derivatives. Verbal descriptions are translated into equations involving derivatives and vice versa.	Students will be able to find derivatives using the chain rule. Students will be able to distinguish between implicit and explicit forms and be able to perform implicit differentiation. Students will be able to use related rates to solve real life application problems. **tangent line** **secant line** **difference quotient** **derivative** **differentiate** **higher order derivative** **chain rule** **implicit function** **explicit function** **implicit differentiation** **related rate**	How do you recognize and find the derivative of a composition function? What is an implicit function and how do you differentiate it? What method do you use to solve related rate problems in the real world?	2.4 The Chain Rule 2.5 Implicit Differentiation 2.6 Related Rates	**District Resources** Larson Calculus Graphing Calculators HM mathSpace Student CD-ROM Instructional DVDs and Videotapes Complete Solutions Guide Instructor's Resource Manual Fast Track to a 5 HM ClassPrep with HM Testing CD-ROM **Internet Resources** MISD Mathematics Web Site AP Central EduSpace CalcChat Larson Calculus **Manipulatives** Balloons, Funnels, and "Little Ladders" (6-inch Rulers) **Campus Resources** To be filled in by each campus

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Unit 2: Differentiation			2nd 6 Weeks		
Date Taught	AP Required Elements	Content/Vocabulary	Guiding Questions	Activities	Resources
	Computation of Derivatives ❖ Basic rules for the derivative of sums, products and quotients of functions ❖ Chain Rule and Implicit Differentiation				

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Unit 3: Applications of Differentiation			2nd 6 Weeks		
Date taught	**AP Required Elements**	**Content/Vocabulary**	**Guiding Questions**	**Activities**	**Resources**
	DERIVATIVES **Derivatives as a Function** ❖ Corresponding characteristics of graphs of *f* and *f'* ❖ Relationship between the increasing and decreasing behavior of *f* and the sign of *f'* ❖ The Mean Value Theorem and its geometric consequences ❖ Equations involving derivatives. Verbal descriptions are translated into equations involving derivatives and vice versa. **Second Derivatives** ❖ Corresponding characteristics of the graphs of *f*, *f'*, and *f''* ❖ Relationship between the concavity of *f* and the sign of *f''* ❖ Points of inflection as places where concavity changes **Applications of Derivatives** ❖ Analysis of curves including the notions of monotonicity and concavity ❖ Optimization, both absolute (global) and relative (local) extrema	Students will be able to understand the definition of absolute and relative extrema and be able to find them on both open and closed intervals. Students will be able to understand and use Rolle's Theorem and the Mean Value Theorem. Students will be able to determine intervals on which a function is increasing or decreasing and apply the First Derivative Test to find relative extrema. Students will be able to determine intervals on which a function is concave upward or concave downward and be able to find points of inflection and be able to apply the Second Derivative Test to find relative extrema. Students will be able to analyze and sketch a graph of a function.	What are extrema and how can you find them on a closed interval? What are Rolle's Theorem and the Mean Value Theorem and when do they apply? How can you tell when a function is increasing or decreasing? How can you use the First Derivative Test to find relative extrema? How do you determine concavity and points of inflection? What are the similarities and differences between the First and Second Derivative Tests? How can you analyze and sketch a graph of a function without test points?	3.1 Extrema on an interval 3.2 Rolle's Theorem and the Mean Value Theorem 3.3 Increasing & Decreasing Functions and the First Derivative Test 3.4 Concavity and the Second Derivative Test 3.6 A Summary of Curve Sketching	**District Resources** Larson Calculus Graphing Calculators HM mathSpace Student CD-ROM Instructional DVDs and Videotapes Complete Solutions Guide Instructor's Resource Manual Fast Track to a 5 HM ClassPrep with HM Testing CD-ROM **Internet Resources** MISD Mathematics Web Site AP Central EduSpace CalcChat Larson Calculus **Manipulatives** Cardboard, Scissors, and Wire **Campus Resources** To be filled in by each campus

Unit 3: Applications of Differentiation			2nd 6 Weeks		
Date taught	AP Required Elements	Content/Vocabulary	Guiding Questions	Activities	Resources
		relative (local) extrema absolute (global) extrema critical numbers Rolle's Theorem Mean Value Theorem Extreme Value Theorem Monotonic First Derivative Test Second Derivative Test Concavity Points of Inflection Optimization Newton's Method Linear Approximation Differential			

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Unit 3: Applications of Differentiation			3rd 6 Weeks		
Date taught	**AP Required Elements**	**Content/Vocabulary**	**Guiding Questions**	**Activities**	**Resources**
	DERIVATIVES **Derivatives as a Function** ❖ Corresponding characteristics of graphs of *f* and *f'* ❖ Relationship between the increasing and decreasing behavior of *f* and the sign of *f'* ❖ The Mean Value Theorem and its geometric consequences ❖ Equations involving derivatives. Verbal descriptions are translated into equations involving derivatives and vice versa. **Second Derivatives** ❖ Corresponding characteristics of the graphs of *f*, *f'*, and *f''* ❖ Relationship between the concavity of *f* and the sign of *f''* ❖ Points of inflection as places where concavity changes **Applications of Derivatives** ❖ Analysis of curves including the notions of monotonicity and concavity ❖ Optimization, both absolute (global) and relative (local) extrema	Students will be able to approximate function zeros using Newton's Method. Students will be able to understand the concept to a tangent line approximation. **relative (local) extrema** **absolute (global) extrema** **critical numbers** **Rolle's Theorem** **Mean Value Theorem** **Extreme Value Theorem** **Monotonic** **First Derivative Test** **Second Derivative Test** **Concavity** **Points of Inflection** **Optimization** **Newton's Method** **Linear Approximation** **Differential**	How can calculus be used to solve optimization application problems? What is Newton's Method? What is a differential and how does it compare to the value of the actual change in *y*?	3.7 Optimization Problems 3.8/3.9 Newton's Method & Differentials	**District Resources** Larson Calculus Graphing Calculators HM mathSpace Student CD-ROM Instructional DVDs and Videotapes Complete Solutions Guide Instructor's Resource Manual Fast Track to a 5 HM ClassPrep with HM Testing CD-ROM **Internet Resources** MISD Mathematics Web Site AP Central EduSpace CalcChat Larson Calculus **Manipulatives** Cardboard, Scissors, and Wire **Campus Resources** **To be filled in by each campus**

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Unit 4: Integration			3rd 6 Weeks		
Date Taught	**AP Required Elements**	**Content/Vocabulary**	**Guiding Questions**	**Activities**	**Resources**
	Applications of integrals Appropriate integrals are used in a variety of applications to model physical, biological, or economic situations. Although only a sampling of applications can be included in any specific course, students should be able to adapt their knowledge and techniques to solve other similar application problems. Whatever applications are chosen, the emphasis is on using the method of setting up an approximating Riemann Sum and representing its limit as a definite integral. To provide a common foundation, specific applications should include using the integral of a rate of change to give accumulated change, finding the area of a region, the average value of a function, and the distance traveled by a particle along a line. **Properties of Definite Integrals** ❖ Definite Integrals of the rate of change of a quantity over an interval interpreted as the change of the quantity over the interval ❖ Basic properties of definite integrals (examples include additivity and linearity) **Fundamental Theorem of Calculus** ❖ Use of the Fundamental Theorem to evaluate definite integrals ❖ Use of the Fundamental Theorem to represent a particular antiderivative, and the analytical and graphical analysis of functions so defined **Techniques of Antidifferentiation** ❖ Antiderivatives following directly from the derivatives of basic functions	Students will be able to write the general solution for a differential equation Students will be able to use indefinite integral notation for antiderivatives Students will be able to use basic integration rules to find antiderivatives Students will be able to find a particular solution of a differential equation Students will be able to use sigma notation to write and evaluate a sum and understand the concept of area and be to approximate the area of a plane region. Students will be able to understand the definition of a Riemann sum. Students will be able to evaluate a definite integral using properties of definite integrals. Students will be able to understand and use the First and Second Fundamental Theorems of Calculus and the Mean Value Theorem for Integrals and be able to find the average value of a function over a closed interval.	How do you find a particular solution of a differential equation? How can you find the area of a plane region? How can sigma notation be utilized to find areas? What is a Riemann Sum and what is its purpose? How can you evaluate a definite integral using properties of definite integrals? What are the Fundamental Theorems of Calculus? How can you find the average value of a function? What is the Mean Value Theorem for integrals?	4.1Antiderivatives and Indefinite Integration 4.2 Area 4.3 Riemann Sums 4.3 Definite Integrals 4.4 The Fundamental Theorem of Calculus	**District Resources** Larson Calculus Graphing Calculators HM mathSpace Student CD-ROM Instructional DVDs and Videotapes Complete Solutions Guide Instructor's Resource Manual Fast Track to a 5 HM ClassPrep with HM Testing CD-ROM **Internet Resources** MISD Mathematics Web Site AP Central EduSpace CalcChat Larson Calculus **Manipulatives** **Campus Resources** To be filled in by each campus

Unit 4: Integration			3rd 6 Weeks		
Date taught	AP Required Elements	Content/Vocabulary	Guiding Questions	Activities	Resources
	Integrals **Interpretations and Numerical Approximations** ❖ Definite integral as a limit of Riemann Sums ❖ Use of Riemann Sums (using left, right, and midpoint evaluation points) to approximate definite integrals of functions represented algebraically, graphically and by table of values	**Sigma Notation** **Riemann Sum** **Upper & Lower Sums** **Inscribed Rectangles** **Circumscribed Rectangles** **Midpoint Rule** **Accumulation Function**			

Unit 4: Integration			4th 6 Weeks		
Date Taught	AP Required Elements	Content/Vocabulary	Guiding Questions	Activities	Resources
	Applications of integrals Appropriate integrals are used in a variety of applications to model physical, biological, or economic situations. Although only a sampling of applications can be included in any specific course, students should be able to adapt their knowledge and techniques to solve other similar application problems. Whatever applications are chosen, the emphasis is on using the method of setting up an approximating Riemann Sum and representing its limit as a definite integral. To provide a common foundation, specific applications should include using the integral of a rate of change to give accumulated change, finding the area of a region, the average value of a function, and the distance traveled by a particle along a line. **Properties of Definite Integrals** ❖ Definite Integrals of the rate of change of a quantity over an interval interpreted as the change of the quantity over the interval ❖ Basic properties of definite integrals (examples include additivity and linearity) **Fundamental Theorem of Calculus** ❖ Use of the Fundamental Theorem to evaluate definite integrals ❖ Use of the Fundamental Theorem to represent a particular antiderivative, and the analytical and graphical analysis of functions so defined **Techniques of Antidifferentiation** ❖ Antiderivatives following directly from the derivatives of basic functions	Students will be able to use a variety of techniques to solve definite and indefinite integrals. Students will be able to approximate a definite integral by using the Trapezoidal Rule.	How can I solve more advanced integration? What is the Trapezoidal Rule?	4.5 Integration by Substitution 4.6 Numerical Integration	**District Resources** Larson Calculus Graphing Calculators HM mathSpace Student CD-ROM Instructional DVDs and Videotapes Complete Solutions Guide Instructor's Resource Manual Fast Track to a 5 HM ClassPrep with HM Testing CD-ROM **Internet Resources** MISD Mathematics Web Site AP Central EduSpace CalcChat Larson Calculus **Manipulatives** **Campus Resources** To be filled in by each campus

Unit 4: Integration			4th 6 Weeks		
Date Taught	**AP Required Elements**	**Content/Vocabulary**	**Guiding Questions**	**Activities**	**Resources**
	❖ Antiderivatives by substitution of variables (including change of limits for definite integrals) ❖ Finding specific antiderivatives using initial conditions, including applications to motion along a line **Integrals** **Interpretations and Numerical Approximations** ❖ Definite integral as a limit of Riemann Sums Use of Riemann Sums (using left, right, and midpoint evaluation points) to approximate definite integrals of functions represented algebraically, graphically and by table of values	**Antiderivative** **Indefinite Integral** **Definite Integral** **General Solution** **Particular Solution** **Initial Condition** **Fundamental Theorem of Calculus** **Second Fundamental Theorem of Calculus** **Mean Value Theorem of Integrals** **Average Value of Function** **Trapezoidal Rule** **Change of Variable** **Sigma Notation** **Riemann Sum** **Upper & Lower Sums** **Inscribed Rectangles** **Circumscribed Rectangles** **Midpoint Rule** **Accumulation Function**			

Unit 5: Logarithmic, Exponential, & Other Transcendental Functions			4^{th} 6 Weeks		
Date Taught	**AP Required Elements**	**Content/Vocabulary**	**Guiding Questions**	**Activities**	**Resources**
	Transcendental Functions **Derivatives** Knowledge of derivatives of basic functions, exponential, logarithmic, trigonometric, and inverse trigonometric functions **Antiderivatives** Knowledge of integration of basic functions, exponential, logarithmic, trigonometric, and inverse trigonometric functions	Students will be able to find derivatives of functions involving the natural logarithmic function.	What is the definition of the number *e*? What are the properties of natural log?	5.1 The Natural Logarithmic Function: Differentiation	**District Resources** Larson Calculus Graphing Calculators HM mathSpace Student CD-ROM Instructional DVDs and Videotapes Complete Solutions Guide Instructor's Resource Manual Fast Track to a 5 HM ClassPrep with HM Testing CD-ROM
		Students will be able to integrate trigonometric functions and use the log rule for integration to integrate rational functions.	How do you integrate logarithmic and trigonometric functions?	5.2 The Natural Logarithmic Function: Integration	
		Students will be able to find the derivative of an inverse function?	What is an inverse function and how is it related to the original function?	5.3 Inverse Functions	
		Students will be able to differentiate and integrate natural exponential functions.	What are natural exponential functions and how are they utilized in calculus?	5.4 Exponential Functions: Differentiation and Integration	**Internet Resources** MISD Mathematics Web Site AP Central EduSpace CalcChat Larson Calculus
		Students will be able to differentiate and integrate exponential functions that have bases other than *e* and be able to model compound interest and exponential growth.	How can you model compound interest and exponential growth and decay?	5.5 Bases other than *e* and Applications	**Manipulatives**
		Students will be able to differentiate an inverse trigonometric function. Students will be able to integrate an inverse trigonometric function.	How can you differentiate trigonometric and inverse trigonometric functions?	5.6 Inverse Trigonometric Functions: Differentiation	**Campus Resources** To be filled in by each campus
		One-to-One Function **Inverse Trigonometric Functions**	How can you integrate trigonometric and inverse trigonometric functions?	5.7 Inverse Trigonometric Functions: Integration	

Unit 5: Logarithmic, Exponential, & Other Transcendental Functions			5th 6 Weeks		
Date Taught	**AP Required Elements**	**Content/Vocabulary**	**Guiding Questions**	**Activities**	**Resources**
	Transcendental Functions **Derivatives** Knowledge of derivatives of basic functions, exponential, logarithmic, trigonometric, and inverse trigonometric functions **Antiderivatives** Knowledge of integration of basic functions, exponential, logarithmic, trigonometric, and inverse trigonometric functions	**One-to-One Function** **Inverse Trigonometric Functions**			**District Resources** Larson Calculus Graphing Calculators HM mathSpace Student CD-ROM Instructional DVDs and Videotapes Complete Solutions Guide Instructor's Resource Manual Fast Track to a 5 HM ClassPrep with HM Testing CD-ROM **Internet Resources** MISD Mathematics Web Site AP Central EduSpace CalcChat Larson Calculus **Manipulatives** **Campus Resources** To be filled in by each campus

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Unit 6: Differential Equations			5th 6 Weeks		
Date Taught	**AP Required Elements**	**Content/Vocabulary**	**Guiding Questions**	**Activities**	**Resources**
	Applications of derivatives & integrals ❖ Geometric interpretation of differential equations via slope fields and the relationship between slope fields and solution curves for differential equations ❖ Solving separable differential equations and using them in modeling (in particular, studying the equation $y' = ky$ and exponential growth) **Applications of integration** Specific applications should include finding the volume of a solid with known cross sections and the volume of revolutions	Students will be able to use slope fields to approximate solutions of differential equations. Students will be able to use separation of variables to solve a simple differential equation and will be able to use exponential functions to model growth and decay in applied problems. Students will be able to recognize and solve differential equations that can be solved by separation of variables and use these equations to model and solve applied problems. Students will be able to find the area between two curves (including intersecting curves) by integration. Students will be able to find the volume of a solid of revolution using the disc and washer method and be able to find the volume of a solid with known cross sections. Students will be able to review procedures for fitting an integrand to one of the basic integration rules.	How are slope fields used to approximate solutions of differential equations? How can growth and decay applications be modeled by exponential functions? How can you use separation of variables to solve applied differential equation? What is the area of a region between two curves? What is the volume of a solid? What is a cross section? What method should you use to solve basic integrals?	6.1 Slope Fields 6.2 Differential Equations: Growth and Decay 6.3 Separation of Variables and the Logistic Equation 7.1 Area of a Region Between Two Curves 7.2 Volume: The Disc Method 8.1 Basic Integration Rules	**District Resources** Larson Calculus Graphing Calculators HM mathSpace Student CD-ROM Instructional DVDs and Videotapes Complete Solutions Guide Instructor's Resource Manual Fast Track to a 5 HM ClassPrep with HM Testing CD-ROM **Internet Resources** MISD Mathematics Web Site AP Central EduSpace CalcChat Larson Calculus **Manipulatives** **Campus Resources** To be filled in by each campus

Unit 6: Differential Equations and Applications of Integration			5th 6 Weeks		
Date Taught	**AP Required Elements**	**Content/Vocabulary**	**Guiding Questions**	**Activities**	**Resources**
	Applications of derivatives & integrals ❖ Geometric interpretation of differential equations via slope fields and the relationship between slope fields and solution curves for differential equations ❖ Solving separable differential equations and using them in modeling (in particular, studying the equation $y' = ky$ and exponential growth) **Applications of integration** Specific applications should include finding the volume of a solid with known cross sections and the volume of revolutions	Students will be able to find the volume of a solid of revolution using the Shell Method and compare the uses of the Disc Method and the Shell Method. **Disk Method** **Washer Method** **Axis of Revolution** **Solid of Revolution** **Cross-Section** **Slope Fields** **Separation of Variables** **Differential Equations** **Newton's Law of Cooling**	What is the Shell Method? What are the similarities and differences between the Disc and Shell Methods?	7.3 Volume: The Shell Method	**District Resources** Larson Calculus Graphing Calculators HM mathSpace Student CD-ROM Instructional DVDs and Videotapes Complete Solutions Guide Instructor's Resource Manual Fast Track to a 5 HM ClassPrep with HM Testing CD-ROM **Internet Resources** MISD Mathematics Web Site AP Central EduSpace CalcChat Larson Calculus **Manipulatives** **Campus Resources** To be filled in by each campus

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An Extension of Topics/ AP Review			6th 6 Weeks		
Date Taught	**AP Required Elements**	**Content/Vocabulary**	**Guiding Questions**	**Activities**	**Resources**
	I. Functions, Graphs, and Limits II. Derivatives III. Applications of Derivatives IV. Antiderivatives V. Applications of Integrals			Review all AP Required Elements Practice AP tests Projects and Labs	**District Resources** Larson Calculus Graphing Calculators HM mathSpace Student CD-ROM Instructional DVDs and Videotapes Complete Solutions Guide Instructor's Resource Manual Fast Track to a 5 HM ClassPrep with HM Testing CD-ROM **Internet Resources** MISD Mathematics Web Site AP Central EduSpace CalcChat Larson Calculus **Manipulatives** **Campus Resources** To be filled in by each campus