CALENDAR

Week and Topic	Main Topics (*topics not on AB exam)	MyAP Lesson #	# of Days
Unit 1: Limits and Derivatives			
Week 0 Grade 12 topics	• Review graphs of polynomials, trig functions, exponential functions • Review piecewise equations • Review function notation		**2**
Week 1 Limits	• Limit notation • Determining limits from graphs • Determining limits algebraically • Limits and infinity • **Squeeze Theorem** • Definition of the limit	1.2 1.3, 1.4 1.5-1.7 1.14, 1.15 1.8 1.9	**5**
Week 2 Continuity	• Discontinuities and corners • Definition of continuity • **Intermediate Value Theorem** • Definition of the derivative at a point • Definition of differentiability	1.10, 1.13 1.11, 1.12 1.16 2.2 2.4	**4**
Week 3 Derivative Rules	• Power rule • Sum rule • Product and quotient rule • Chain rule • Implicit differentiation	2.5 2.6 2.8, 2.9 3.1 3.2	**5**
Week 4 Derivative Rules	• Trig derivatives • Inverse derivatives • Exponential derivatives • Higher order derivatives	2.7, 2.10 3.3, 3.4 2.7 3.6	**5**
	TEST: Limits and Derivatives: Wednesday Oct 13th		
Unit 2: Applications of Derivatives			
Week 5 Motion in a Line	• Linearization • Motion in a line • Other rates of change and the associated derivative	4.6 4.2 4.3	**3**
Week 6 Related Rates	• Related rates with Pythagoras, trig and other geometric relationships. • L'hopital's Rule	4.4-4.5 4.7	**4**
Week 7 Extremum	• **Mean Value Theorem** • **Extreme Value Theorem** • Increasing and decreasing functions • First and second derivative tests for extremum • Curve Sketching	5.1 5.2 5.3 5.4-5.7 5.8, 5.9	**5**
Week 8 Optimization	• Optimization on curves • Optimization in context • Newton's Method*	5.10 5.11 OOB	**5**
	TEST: Applications of Derivatives: Monday Nov 8th		

Week and Topic	Main Topics (*topics not on AB exam)	MyAP Lesson #	# of Days
Unit 3: Antiderivatives			
Week 9 Riemann Sums	• Approximating area under a curve • RRAM and Trapezoid numerical methods • Area as a limit of a Riemann Sum	6.2 6.2 6.3	**3**
Week 10 Definite Integrals	• Definite integral notation • Definite integral properties • **Fundamental Theorem of Calculus Part 1** • **Fundamental Theorem of Calculus Part 2** • Functions defined as a definite integral	6.6 6.6 6.4 6.7 6.5	**5**
Week 11 Integration Techniques	• Antiderivatives • Substitution • Long division and completing the square • Trig substitution* • Partial fractions*	6.8 6.9 6.10 OOB 6.12	**4**
Week 12 Net Change	• Motion using integrals • Accumulation function applications	8.2 8.3	**5**
	TEST: Antiderivatives Monday Dec 6th		
Unit 4: Applications of Antiderivatives			
Week 13 Area	• Average value • Area between curves • Area with respect to y • Volume using cross sectional area	8.1 8.4 8.5 8.7, 8.8	**4**
Week 14 Volume	• Volume by revolution – discs • Volume by revolution – shells • Volume about non x-axis • Arc length* • Surface Area*	8.10 8.11 8.12 8.13 OOB	**5**
	Winter Break		
Week 15 Differential Equations	• Slope fields • Steady states • Differential equations	7.3 7.4 7.1, 7.2	**4**
Week 16 Modelling and Solving Differential Equations	• Separation of variables • Initial conditions • Exponential models • Logistic models*	7.6 7.7 7.8 7.9	**5**
Week 17 Exam	• Review and Test		**2**
	TEST: Applications of Antiderivatives Wednesday Jan 19th		
Finish Semester			
Week 17 & 18 Final Integration Applications	• Probability distributions* • Center of mass*	OOB OOB	**5**
	Last Day of Class: Jan 27th Monday May 9th AP Exam		