



**AP Calculus BC**  
**Year at a Glance (YAG)**  
**2023-2024**



First Semester		Second Semester	
1 <sup>st</sup> Nine Weeks		3 <sup>rd</sup> Nine Weeks	
<p><b>College Board Standard</b> EU 1.1, EU 1.2</p> <p>EU 2.1, EU 2.2</p> <p>EU 2.2 EU 2.3 EU 2.4</p> <p>EU 2.3</p>	<p><b>Content</b></p> <p><b>Unit 1: Limits (9 days)</b> Students will determine limits algebraically, graphically, and tabularly.</p> <p><b>Unit 2: The Derivative and Derivative Rules (11 days)</b> Students will explore the concept of the derivative and determine derivatives for a variety of functions.</p> <p><b>Unit 3: Derivative Applications and Analyzing <math>f, f', f''</math> Relationships. (12 days)</b> Students will analyze the relationships between a function and its derivative.</p> <p><b>Unit 4: Optimization and Related Rates (8 days)</b> Students will apply derivatives in a variety of real world contexts.</p>	<p>EU 2.3 EU 3.3 EU 3.5</p> <p>EU 3.3, EU 1.1</p> <p>EU 2.2, EU 2.3, EU 3.4</p> <p>EU 4.1 EU 4.2</p>	<p><b>Unit 9: Integration techniques, growth and decay (11 days)</b> Students will use various integration techniques to solve various growth and decay problems.</p> <p><b>Unit 10: Improper integrals and L'Hopital's Rule(10 days)</b> Students will determine limits using L'Hopital's rule and then use those limits to evaluate improper integrals.</p> <p><b>Unit 11:Polar, Parametric, and Vector Equations (12 days)</b> Students will explore motion of objects in 2 dimensions, using vectors, parametric and polar functions.</p> <p><b>Unit 12: Series Convergence (12 days)</b> Students will analyze various series using the various series convergence tests.</p>
2 <sup>nd</sup> Nine Weeks		4 <sup>th</sup> Nine Weeks	
<p>EU 3.1, EU 3.2, EU 3.3, EU 3.4</p> <p>EU 3.3, EU 3.4</p> <p>EU 3.4</p> <p>EU 3.5</p>	<p><b>Unit 5: Riemann Sums, Antidifferentiation and Fundamental Theorem of Calculus (9 days)</b> Students will explore the concept of the Fundamental Theorem of Calculus and integration.</p> <p><b>Unit 6: Application of the Fundamental Theorem of Calculus (7 day)</b> Students will apply the F.T.C. in a variety of real world contexts.</p> <p><b>Unit 7: Area and Volume (10 days)</b> Students will find the area and volume of various irregular figures.</p> <p><b>Unit 8: Differential Equations ( 11 days)</b> Students will solve and apply differential equations in a variety of contexts.</p> <p><b>Semester Exam/Review (3 days)</b></p>	<p>EU 4.2</p> <p>ALL</p> <p>ALL</p>	<p><b>Unit 13: Taylor Series (15 days)</b> Students will use the Taylor formula to represent a variety of functions as series and analyze the error of these series.</p> <p><b>Unit 14: AP Review Multiple Choice (13 days)</b> Students will review all concepts presented in this class in order to prepare for the AP test.</p> <p><b>Unit 15: AP Review Free Response (13 days)</b> Students will review all concepts presented in this class in order to prepare for the AP test.</p> <p><b>Semester Exam Review (4 days)</b></p>

Resources

1st Nine Weeks	2nd Nine Weeks	3rd Nine Weeks	4th Nine Weeks



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