



# AP Calculus BC UNIT PLANNER



<b>Unit title</b>	<b>Unit 3: Differentiation: Composite, Implicit, and Inverse Function</b>	<b>Unit duration</b>	<b>3 Weeks</b>
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**Essential Questions (OR GUIDING QUESTIONS?)**

How do we find derivatives of composite and inverse functions?  
 How can we take the derivative of a function that is not explicitly solved for a single variable?  
 How do you decide which derivative rules to utilize?  
 How can we explore the relationship between a function and its first and second derivatives?

**Assessments**

Homework Quizzes  
 Formative Assessments  
 Summative Assessment

**Content Standards**

3.1 The chain rule  
 3.2 Implicit differentiation  
 3.3 Differentiation inverse functions  
 3.4 Differentiation inverse trigonometric functions  
 3.5 Selecting procedures for calculating derivatives  
 3.6 Calculative higher order derivatives

**Learning Activities and Experiences**

Topic	Resource	Content Covered	Standards Addressed
Differentiation: composite, implicit, inverse	Unit 3 Guided Notes (pdf adapted from Tony Record), pages 1-6 AP Classroom daily videos 3.1 Skill Builder WS 3.1	<ul style="list-style-type: none"> <li>Chain Rule</li> </ul>	3.1
	Unit 3 Guided Notes (pdf adapted from Tony Record), pages 7-10 AP Classroom daily videos 3.2 Skill Builder WS 3.2	<ul style="list-style-type: none"> <li>Implicit Differentiation</li> </ul>	3.2
	Unit 3 Guided Notes (pdf adapted from Tony Record), pages 11-13 AP Classroom daily videos 3.3 Skill Builder WS 3.3	<ul style="list-style-type: none"> <li>Differentiating Inverse Functions</li> </ul>	3.3

	Unit 3 Guided Notes (pdf adapted from Tony Record), pages 14-15 AP Classroom daily videos 3.4 Skill Builder WS 3.4	<ul style="list-style-type: none"> <li>Differentiating Inverse Trigonometric Functions</li> </ul>	3.4
	Unit 3 Guided Notes (pdf adapted from Tony Record), pages 16-18 AP Classroom daily videos 3.5-3.6 Skill Builder WS 3.5, 3.6	<ul style="list-style-type: none"> <li>Selecting procedures for calculating derivatives</li> </ul>	3.5
		<ul style="list-style-type: none"> <li>Calculating Higher Order Derivatives</li> </ul>	3.6
<b>Additional Resources:</b> Interactive notebook pages Unit 3 review (adapted from Tony Record)			

### Personalized Learning and Differentiation

Teachers differentiate by providing examples (work samples or task-specific clarifications of assessment criteria); structuring support (advance organizers, flexible grouping, peer relationships); establishing flexible deadlines, and adjusting the pace.

- SWD/504- Accommodations provided
- ELL- Five Principle ELL Curriculum Framework and Vocabulary Supports
- Intervention Support- Re-teaching Activities in Small Groups with Progress Monitoring
- Extensions- Enrichment Tasks and Projects

### Resources

- AP Classroom (within AP Central, collegeboard.org)
- Calculus textbook: Calculus, 11e, Larson & Edwards
- Tony Record (Avon HS) created resources
- Khan Academy
- Delta Math
- flippedmath.com
- Master Math Mentor (pdf files and videos)
- Teacher created resources