

<b>Publisher:</b>	<b>Name of Reviewer:</b>
<b>Instructional Materials Name:</b>	<b>School:</b>
<b>Grade Level(s) Reviewed:</b>	<b>Role:</b>

### OCPS AP Calculus AB/BC Instructional Materials Evaluation Tool (IMET)

To ensure instructional materials are grade appropriate, of good quality and content, and aligned to applicable AP Calculus AB/BC Big Ideas, each material reviewed by the School Board of Orange County Public Schools will be evaluated based on compliance to Florida Statutes. The following essential priorities and priorities constitute the rubric for the evaluation of instructional materials:

- Essential Priority 1: Building knowledge through high-quality instructional text
- Essential Priority 2: Skill- and concept-based exercises and problem solving
- Priority 3: Usability for teachers
- Priority 4: Assessment
- Priority 5: Supports for ALL learners

Reviewers will apply a set of evaluation criteria to determine the extent to which a set of materials is aligned with the AP Calculus AB/BC Course and Exam Description (CED). Following careful analysis of **essential priority** and **priority** criteria using the OCPS AP Calculus AB/BC IMET, materials will be assigned one of the following ratings:

- *Meets expectations*
- *Partially meets expectations*
- *Does not meet expectations*

#### Essential Priority 1: Building Knowledge through High-Quality Instructional Text

The AP Calculus AB/BC course is built around three big ideas and enduring understandings, listed below:

Big Idea	Enduring Understanding
Change	Using derivatives to describe rates of change of one variable with respect to another or using definite integrals to describe the net change in one variable over an interval of another allows students to understand change in a variety of contexts. It is critical that students grasp the relationship between integration and differentiation

	as expressed in the Fundamental Theorem of Calculus—a central idea in AP Calculus.
Limits	Beginning with a discrete model and then considering the consequences of a limiting case allows us to model real-world behavior and to discover and understand important ideas, definitions, formulas, and theorems in calculus: for example, continuity, differentiation, integration, and series
Analysis of Functions	Calculus allows us to analyze the behaviors of functions by relating limits to differentiation, integration, and infinite series and relating each of these concepts to the others.

These three big ideas and the enduring understandings that come from them are at the heart of any text in the AP Calculus AB/BC courses.

Texts used in the AP Calculus AB/BC course introduce students to calculus concepts and provide experience with methods and applications. The selected materials should emphasize not only skills and processes, but also conceptual understanding. They should also utilize a multi-representational approach to calculus, with concepts, results, and problems expressed graphically, numerically, analytically, and verbally. Exploring connections among these representations builds understanding of how calculus applies limits to develop important ideas, definitions, formulas, and theorems.

Materials selected should provide opportunities for students to use technology, investigations, problem solving, and writing, as they build conceptual understanding. Course materials should also help students to continue to hone their skills as they prepare for the AP Calculus AB/BC exam at the end of the school year.

Indicator	Notes	Scoring
1.1: Instructional text is rigorous and instructive without being overly formulaic/dense or inaccessible to high school students.		Meets (4) Partially Meets (2) Does Not Meet (0)
1.2: Instructional text introduces and explains the use of correct notation, language, and mathematical conventions, while emphasizing		Meets (4) Partially Meets (2) Does Not Meet (0)

conceptual connections and the Enduring Understandings		
1.3: Materials provide a variety of interactions with technology, including (but not limited to) graphing calculator usage and computer software.		Meets (4) Partially Meets (2) Does Not Meet (0)
1.4: Instructional material emphasizes a variety of representations with most skills, including the use of graphical, numerical, analytical, and verbal expressions.	<i>Reviewer note: The word "most" refers to <u>approximately</u> 75-80% of questions, tasks, and assignments. These percentages should not be used as a fixed rule.</i>	Meets (4) Partially Meets (2) Does Not Meet (0)
1.5. Texts provide a positive view of diverse ethnic groups and genders, including relevant graphics, images, experiences, and names representing African, Hispanic/Latino, American Indian, Asian, Pacific Islander cultures from multiple perspectives (excluding any stereotypes).		Meets (4) Partially Meets (2) Does Not Meet (0)
<b>Essential Priority 1 Total Score</b> <i>40 points available</i>		

<b>Essential Priority 2: Skill- and Concept-Based Exercises and Problem Solving</b>		
Both AP Calculus AB and AP Calculus BC require students to use definitions and theorems to build arguments and justify conclusions. Exercises that espouse a sustained emphasis on clear communication of methods, reasoning, justifications, and conclusions is essential. Problem sets should emphasize the four Mathematical Practices outlined in the CED: Implementing Mathematical Processes, Connecting Representations, Justification, and Communication and Notation.		
Indicator	Notes	Scoring
2.1: All problem sets include a wide range of difficulty, providing ample practice for students of varying entry levels		Meets (4) Partially Meets (2) Does Not Meet (0)
2.2: Questions and tasks include a variety of formats and presentations; for example, a problem set about identifying discontinuities may include piecewise functions, graphs, and tables		Meets (4) Partially Meets (2) Does Not Meet (0)
2.3: Most sections include questions that require students to communicate their understanding through writing and explain their reasoning	<i>Reviewer note: The word "most" refers to <u>approximately</u> 75-80% of questions, tasks, and assignments. These percentages should not be used as a fixed rule.</i>	Meets (4) Partially Meets (2) Does Not Meet (0)

2.4: Materials provide frequent opportunities for spiraled review and connection to previous topics and skills		Meets (4) Partially Meets (2) Does Not Meet (0)
2.5: Problem sets that address BC-only topics are clearly marked as such.		Meets (4) Partially Meets (2) Does Not Meet (0)
<b>Essential Priority 2 Total Score</b> <i>40 points available</i>		

### Priority 3: Usability for Teachers

Materials support teachers to fully utilize the curriculum, understand the skills and learning of their students, and support a range of learners.

Indicator	Notes	Scoring
3.1. Pacing is reasonable and flexible; the curriculum can be reasonably implemented within a typical school year.	<p><b>Reviewer Note:</b> Reviewers should consider whether:</p> <ul style="list-style-type: none"> <li>• <i>time estimates for lessons and units are accurate and reflect the College Board CED exam timeline</i></li> <li>• <i>required number of minutes per day and days per year are feasible, and</i></li> <li>• <i>flexible options exist for a variety of school schedules/learning environments. (To what degree do the materials support remote/digital learning?)</i></li> </ul>	Meets (2) Partially Meets (1) Does Not Meet (0)
3.2. Materials provide teacher guidance with useful annotations and suggestions for how to enact the student materials and ancillary materials to support students' development.	<p><b>Reviewer Note:</b> Supports might include:</p> <ul style="list-style-type: none"> <li>• <i>Suggested activities and opportunities to use manipulatives</i></li> <li>• <i>Structures (cooperative learning structures, grouping strategies)</i></li> </ul>	Meets (2) Partially Meets (1) Does Not Meet (0)
3.3. Materials include guidance and resources designed specifically to build teachers' subject matter knowledge, including culturally responsive teaching.	<p><b>Reviewer Notes:</b></p> <p><i>Supports might serve to improve:</i></p> <ul style="list-style-type: none"> <li>• <i>content knowledge (specific mathematical concepts)</i></li> <li>• <i>pedagogical content knowledge (teaching through experiences and investigations)</i></li> </ul> <p><i>Support formats may vary:</i></p> <ul style="list-style-type: none"> <li>• <i>callout boxes and annotations in lessons</i></li> </ul>	Meets (2) Partially Meets (1) Does Not Meet (0)

	<ul style="list-style-type: none"> <li>• <i>videos of classroom instruction</i></li> <li>• <i>implementation guides</i></li> <li>• <i>Information about the standards</i></li> </ul> <p><i>Culturally responsive teaching supports should provide teachers with guidance on how to approach, enhance and customize lessons for their student populations.</i></p>	
3.4. Materials include rubrics, exemplars, or other teacher resources to help teachers set high expectations for students.	<p><b>Reviewer Note:</b> <i>In addition to rubrics and exemplars, relevant resources might include:</i></p> <ul style="list-style-type: none"> <li>• <i>checklists for students to use in peer or self-assessments</i></li> <li>• <i>annotated student work at various levels of achievement, including non-exemplars</i></li> </ul>	Meets (2) Partially Meets (1) Does Not Meet (0)
3.5. Materials promote stakeholder involvement, including students, parents, or caregivers about the program and suggestions for how they can help support student progress and achievement.		Meets (2) Partially Meets (1) Does Not Meet (0)
3.6. Digital materials are provided and accessible to both students and teachers. Resources are easy to navigate and aligned to the AP Calculus AB/BC CED.		Meets (2) Partially Meets (1) Does Not Meet (0)
<b>Priority 3 Total Score</b> <i>12 points available</i>		

#### Priority 4: Assessment

Assessment identifies how materials provide tools, guidance, and support for teachers to collect, interpret, and act on data about student progress toward success on the AP Calculus AB/BC exam at the end of the school year.

Indicator	Notes	Scoring
4.1. Assessments provide a system of monitoring student progress in <b>Multiple Choice question formats (with and without calculator use)</b> which includes multiple opportunities throughout the course to determine what students are learning and what they have learned.		Meets (2) Partially Meets (1) Does Not Meet (0)

4.2. Assessments provide a system of monitoring student progress in <b>Free Response question formats (with and without calculator use)</b> which includes multiple opportunities throughout the course to determine what students are learning and what they have learned.		Meets (2) Partially Meets (1) Does Not Meet (0)
4.3. Materials provide an ample volume of assessment types/formats to allow for frequent checks of student mastery to guide teachers before, during, and after instructional cycles.		Meets (2) Partially Meets (1) Does Not Meet (0)
4.4. Assessments include item types that measure the depth and rigor of the AP Calculus AB/BC CED.		Meets (2) Partially Meets (1) Does Not Meet (0)
<b>Priority 4 Total Score</b> <i>8 points available</i>		

**Priority 5: Supports for ALL Students**

<b>Indicator</b>	<b>Notes</b>	<b>Scoring</b>
5.1. Materials regularly provide all students (including those who read, write, speak, or listen below grade level, or whose first language is other than English) with extensive opportunities to work with and develop the skills in the AP Calculus AB/BC CED including multi-sensory strategies/supports.		Meets (2) Partially Meets (1) Does Not Meet (0)
5.2. Materials incorporate strategies, materials, and activities that consider the needs of all students for the differentiation of learning (scaffolds explicitly built in to address enrichment, Tiers 2 & 3 supports).		Meets (2) Partially Meets (1) Does Not Meet (0)
5.3. Materials specify the language demands and challenges students may encounter at different levels of standard English language proficiency and opportunities for teachers to address those		Meets (2) Partially Meets (1) Does Not Meet (0)

challenges along the progression of language acquisition (preferably at the lesson level).		
5.4. Universal Design for Learning supports are included within teacher materials, to ensure that all learners can access and participate in meaningful and challenging learning opportunities.		Meets (2) Partially Meets (1) Does Not Meet (0)
<b>Priority 5 Total Score</b> <i>8 points available</i>		

Priorities	Available Points	Score
1. Building Knowledge through High-Quality Texts	40	
2. Evidence-Based Questions, Tasks, and Assignments	40	
4. Usability for Teachers	12	
5. Assessment	8	
6. Supports for All Students	8	
<b>Overall Combined Score</b>	<b>108</b>	