

<b>Instructor:</b> Charise Shaw	<b>Classroom No.</b> 307	<b>Phone:</b> 202-282-0123 School Remind: @ShawCalcAB
<b>E-mail Address:</b> charise.shaw@k12.dc.gov	<b>Planning &amp; Conference Time:</b> Before school by appointment, during lunch	

**COURSE OVERVIEW:**

The course teaches all topics associated with functions, graphs, and limits; derivatives; and integrals as delineated in the Calculus AB Topic Outline in the AP Course Description Guide. Student conceptual development of topics builds on numerical, graphical, analytical and verbal connections. All conceptual topics are reinforced via the use of the TI-84 Plus graphing calculator. The objective of this course is to prepare students for the AP Exam and for success in subsequent mathematics courses. There is an attempt to balance understanding of concepts, use of technology and mathematical communication of procedures and solutions both verbally and in writing.

**COURSE CREDIT:**

Upon the successful completion of this course, students will earn 1.0 credit for the course.

**COURSE MATERIALS NEEDED:**

Students will need pencils, erasers, pens, highlighters, college-ruled loose-leaf paper, a binder with 8 sections, and a composition notebook to be prepared for class each day. In addition, we will use the following:

TECHNOLOGY: TI-nSpire CX Graphing Calculator (to be checked out for the school year), Notebook™ software(In class), and AP Classroom.

Students will use graphing calculators frequently to aid in the solution of problems.

Uses include:

- estimating limits
- investigating limits graphically
- estimating intersection of two functions
- explore continuity of a function
- to justify mathematical conclusions and evaluate reasonableness of answers

*\*We will be using the TI-nSpire Graphing calculator in class frequently. These calculators must be checked out at the beginning of the year and returned at the end of the year. It is not required that students purchase one, however, they can be used on the AP, SAT, and ACT exams, and will be used in future science and math classrooms both in high school and college. **These are wise investments in a student's education.***

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## ***AP Calculus AB (cont.)***

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### **STUDENT OUTCOMES:**

By the end of the year you should expect to learn the topics listed below.

	<b><u>Topic</u></b>
<b>Unit 1</b>	Limits and Continuity
<b>Unit 2</b>	Differentiation: Definition and Fundamental Properties
<b>Unit 3</b>	Differentiation: Composite, Implicit, and Inverse Functions
<b>Unit 4</b>	Contextual Applications of Differentiation
<b>Unit 5</b>	Analytical Applications of Differentiation
<b><i>*Mock AP Exam #1*</i></b>	
<b>Unit 6</b>	Integration and Accumulation of Change
<b>Unit 7</b>	Differential Equations
<b>Unit 8</b>	Applications of Integration
<b><i>*Mock AP Exam #2*</i></b>	
<b>Unit 9</b>	<b>Review for AP Exam</b>
<b>Unit 10</b>	<b>Final Project</b>

### **CLASSROOM MANAGEMENT (THE 4 P'S)**

1. **Be Prompt.** Be in your seat with your materials ready at the beginning of your class. Tardiness interrupts learning, which is unfair to your fellow classmates.
2. **Be Prepared.** Always have your course materials with you when you come to class. Be prepared to learn. Whenever possible, use the restroom between classes.
3. **Be Patient.** Respect yourself and others. Give your fellow students the time they need to answer questions. Only one person speaks at a time. Minimize classroom distractions, as they interrupt the learning environment.
4. **Be Persistent.** Everybody learns more when they are actively involved. Make sure you are on task, taking notes, **asking questions**, and working cooperatively with your classmates.

## ***AP Calculus AB (cont.)***

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### **TEXTBOOK:**

TEXT(S): *Calculus Concepts and Applications* by Paul Foerster, *Cracking the AP Calculus AB & BC Exams: 2010 Edition* by The Princeton Review, *Calculus Graphical Numerical, Algebraic* by Finney, Demana, Waits, Kennedy

### **LATEWORK:**

Late work may be handed in within the **same unit** of study for no penalty. If the class has moved on to another unit, late work for that unit will only be accepted for **at most 86%** of the original points.

### **ASSESSMENTS:**

**Students will be assessed daily for comprehension of the material.** There will be an exam after each unit. Every exam in this class will include AP problems. These will be a variety of multiple choice and free response questions, as well as ones that do and do not require a calculator. They will also include free-response questions from past AP exams that students will be required to explain and/or justify their solutions to problems in well-written sentences. The midterm exam will be completely problems taken from past AP tests. As we get closer to the AP exam itself, we will spend more and more class time practicing these kinds of problems. There are also unannounced quizzes each term on skills we need for fluency, such as the Unit Circle, factoring, trig identities, etc.

### **HOMEWORK POLICY:**

Students will be provided with meaningful homework activities to reinforce lessons taught in the classroom. The assignments will include questions from past AP exams as well as teacher generated questions. Multiple choice questions will be graded based on the correct answer, whereas free-response questions will be graded for correctness as well as a student's ability to justify their solutions to problems in well-written sentences. Homework must be completed at home or some other location away from the classroom, if it is to achieve its purpose.

### **EXTRA HELP:**

Do not let yourself fall behind! This is a fast moving class that builds on itself, so you cannot afford to let a few days go by without doing the homework or attending class. That said, there are many resources for you to achieve your best. **Students may come before school, during lunch on Wednesdays, or by appointment to receive extra help in the class.** There are plenty of websites, videos, and cell phone apps to assist you in this course. The website [www.classzone.com](http://www.classzone.com) has vast amounts of free material. There is also a free online graphing calculator at [www.desmos.com](http://www.desmos.com) that is as good as owning one. As we approach the AP Exam, there will be a series of AP practice test sessions. Help is out there; it is **your responsibility** to seek it.

## AP Calculus AB (cont.)

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### ATTENDANCE POLICY:

Regular attendance is essential to success in this course. **INSTRUCTION STARTS AT 8:30 AM.** Students who are not present at the beginning of class are marked either absent or tardy. Regular tardiness or absences will result in calls home or other appropriate disciplinary action.

### **Attendance Affects the Final Grade!!!**

**Thirty (30) unexcused absences** will result in automatic failure for the course.

### DCPS GRADING SCALE

This course follows the official DCPS grading scale:

Grade	Percentage	Grade	Percentage
A	93-100	C	73-76
A-	90-92	C-	70-72
B+	87-89	D+	67-69
B	83-86	D	64-66
B-	80-82	F	63-0
C+	77-79		

### COURSE GRADING POLICY:

Term 1 (08/29/22 – 11/07/22)

Term 2 (11/08/22 – 01/25/23)

Term 3 (01/26/23 – 04/10/23)

Term 4 (04/11/23 – 06/23/23)

<b>Participation</b>	Includes: Warm-ups, study group reflections, class discussions, class preparedness, PPCs	<b>10%</b>
<b>Practice &amp; Application</b>	Includes: Classwork and homework, drills	<b>50%</b>
<b>Assessments</b>	Includes: Quizzes, tests, projects, journal questions	<b>40%</b>
<b>Cumulative Examinations</b>	Includes: All Mock exams	to be factored into term grades

**I have read and understand the policies defined in this syllabus:**

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(Student Signature)

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(Parent/Guardian Signature)