**Advanced Placement (AP) Calculus AB/BC Syllabus**
**2024-25**

**Instructor:** Mrs. Thompson          **Room:** Price Hall 108 A          **Email:** thompsm12@gcsnc.com

**Course Overview:** AP® Calculus AB & AP® Calculus BC focus on students' understanding of calculus concepts and provide experience with methods and applications. Using big ideas of calculus (e.g., modeling change, approximation and limits, and analysis of functions), each course becomes a cohesive whole, rather than a collection of unrelated topics. Both courses require students to use definitions and theorems to build arguments and justify conclusions.

AP Calculus AB is designed to be the equivalent of a first semester college calculus course devoted to topics in differential and integral calculus. AP Calculus BC is designed to be the equivalent to both first and second semester college calculus courses. AP Calculus BC applies the content and skills learned in AP Calculus AB to parametrically defined curves, polar curves, and vector-valued functions; develops additional integration techniques and applications; and introduces the topics of sequences and series.

**Course Expectations:**

Students are expected to watch the videos posted on Canvas and complete the guided notes. Questions will be addressed in class and practice questions will be completed in class (Flipped Classroom). Short exit tickets will be completed at the end of the class to assess understanding.

Students are expected to complete all homework problems to the best of their ability. If they need additional support, they can refer to the additional resources listed below.

The Personal Progress Checks (PPC) that are assigned online for this course through the student's College Board account are to be completed on time; exceptions will not be made.

Students will take quizzes. These quizzes are short and are intended to check for understanding of concepts and skills that were recently taught. Students are required to make all corrections when the quizzes are returned to them.

**Technology Requirement:** Students should have a TI-84 graphing calculator. There is a classroom set that must remain in the room. Some problems throughout the course will require them to use their graphing calculators.

**Textbook:** Sullivan, Michael, and Kathleen Miranda. *Calculus* (for the AP Course), 2nd ed**.** (New York: Bedford, Freeman & Worth, 2017)

#### Additional Resources:
- Students will watch videos posted on Canvas to complete guided notes corresponding to the lessons covered in class.
- Students can log in to their College Board Account to watch Daily Videos and work through the Student Practice questions that come with video explanations
- Students have the option of coming to me for help before school, during lunch or on Wednesday evening after school (4;30 – 5:30 pm).

The course is designed around the three "Big Ideas" of calculus, including:

Big Idea #1: Change
Big Idea #2: Limits
Big Idea #3: Analysis of Functions

The College Board's CED is broken down into 10 units, and my course follows the sequencing/pacing of these 10 units. The three big ideas of calculus are included in the units as reflected in the CED.

UNIT 1: Limits and Continuity (4-7% exam weight)

UNIT 2: Differentiation: Definition and Fundamental Properties (4-7% exam weight)

UNIT 3: Differentiation: Composite, Implicit, and Inverse Functions (4-7% exam weight)

UNIT 4: Contextual Applications of Differentiation (6-9% exam weight)

UNIT 5: Analytical Applications of Differentiation (8-11% exam weight)

UNIT 6: Integration and Accumulation of Change (17-20% exam weight)

UNIT 7: Differential Equations (6-9% exam weight)

UNIT 8: Applications of Integration (6-9% exam weight)

UNIT 9: Parametric Equations, Polar Coordinates, and Vector-Valued Functions BC only (11-12% exam weight)

UNIT 10: Infinite Sequences and Series BC only (17-18% exam weight)

**Grading Scale:**

A 100-90          B 89-80          C 79-70          D 69-60          F 59 and below

**Grading Policy:**

50% Major Assessments (Unit Tests)                    10% Homework

30% Minor Assessments (Quizzes)                      10% Classwork

**Classroom Expectations:**

- Be on time – a student is late if not in the classroom at the beginning of the block/period.
- Bathroom breaks – All students will be allowed to leave to go to the restroom at the student's discretion with the understanding that s/he goes directly to the closest bathroom and comes back as soon as possible. Not following these expectations may result in bathroom break privileges being taken away.
- Be respectful – Honor anyone and everyone in the room. If anyone is addressing the class, everyone should be silent and directly paying attention to the speaker.
- Be prepared – always have your notebook and digital device ready (charged Chromebook) every class period.
- Food, drinks and water –Small snacks will be allowed unless trash or crumbs become a problem. Drinks will be allowed unless they become a problem. Water will always be allowed.

**Assignment Policy:**

- Tests will be given at the end of each unit and sometimes halfway through the unit if it is a long unit. When absent on a test day, the test must be made up ASAP.
- Quizzes may be given once per week. When absent on a quiz day, the quiz must be made up ASAP!
- Classwork may be assigned daily and must be completed before leaving.
- Homework must always be completed and turned in by the due date.  Late assignments will not receive full credit.
- Progress checks will be assigned in AP Classroom throughout each unit.

**Test Retakes:**

Students who fail a major test/assessment (below 70%) will be allowed to do test corrections up to a 70% grade. This does not include semester examinations. Students are expected to meet for tutoring with the teacher to retake or correct a major test/assessment.

**Required Materials**

- Traditional classroom materials: Binder or Folder to keep Guided Notes, Notebook-paper, writing utensil, highlighter, 3x5 notecards, etc.
- School Issued Chromebook, laptop, or other district provided technology every class.

**Tutorial Schedule**:

- Wednesdays 4:30 – 5:30 pm
- During lunch.

**REMIND.COM TO:**

81010 MESSAGE: @cehc6c

**AP EXAM DATE: MONDAY, MAY 12, 2025, at 8:00 AM**

Sign up for AP Calculus AB and BC in  AP Classroom using the following code at myap.collegeboard.org – TBA

# Confirmation of Receipt and
# Understanding of Syllabus Student Expectations.

## Please return with all signatures and information by Monday, August 12th

**Please sign and return this form to the instructor. Signatures will serve as acknowledgement that both students and parents have read and understand the course syllabus.**

**I, the undersigned, have received and read the course syllabus for AP Calculus AB/BC**

**Parent Name, Email, Phone and Signature**

_____

_____ **Date**_____

**Parent Name, Email, Phone and Signature**

_____

_____ **Date** _____

**Student Signature**_____

**Student Email:** _____