



AP Calculus AB

Instructor: Lee Casey Classroom: 406 (1st & 2nd) or 403 (3rd)
Office Hours: Most days after school in Room 406 E-mail: leland.casey@k12.dc.gov
(you can also make an appointment)

Course Description (Overview):

AP Calculus AB promotes understanding the concepts of calculus (limits, derivatives, and integrals) and provides experience with its methods and applications. The course emphasizes representing functions in four ways: numerically, graphically, algebraically, and verbally. Students complete a variety of explorations to discover major calculus concepts and use appropriate technology to relate the multiple representations of functions. The course prepares students for the AP exam in May of 2023 and further study in college-level mathematics and science.

Course Objectives:

1. Understand the meaning of the derivative in terms of a rate of change and local linear approximation, and use derivatives to solve a variety of problems
2. Understand the meaning of the definite integral both as a limit of Riemann sums and as the net accumulation of change, and use integrals to solve a variety of problems
3. Understand the relationship between the derivative and the definite integral as expressed in both parts of the Fundamental Theorem of Calculus
4. Model a written description of a physical situation with a function, a differential equation, or an integral
5. Use technology to help solve problems, experiment, interpret results, and support conclusions
6. Develop an appreciation of calculus as a coherent body of knowledge and as a human accomplishment

Textbook and Technology:

- Finney, Demana, Waits, Kennedy. Calculus: Graphical, Numerical, Algebraic. Fourth Edition. AP Edition. Pearson, 2012.
- *Other related websites such as [APClassroom](#), [DeltaMath](#), [DESMOS](#), and [Geogebra](#)*

Resources and Supplies:

- Graphing calculator equivalent to TI-84 (TI 83 is also acceptable but is missing some features)
- Composition Notebooks, 1" three ring binder with some loose leaf paper, a box of tissues (optional)
- Pencils and erasers

Grading Policy:

All courses must follow the official DCPS grading scale.

- **10% Participation** - Warm-ups, Class Participation, etc.
- **50% Student Work** - Projects, Classwork, Homework
- **40% Assessments** - Tests, Quizzes, etc.
 - **WS (50%)** – When a student does not complete an assignment or assessment, it will be entered into the gradebook as “WS” meaning “Work Not Submitted.” The grade is an automatic 50% until the actual assignment is completed and submitted.
 - **F (63%)** – Any assignment or assessment that is attempted, but scores a failing grade will be entered as an F and automatically calculated to a 63%.
 - Both the WS and the F grading practices are part of our equity in grading initiative at Wilson as well as an official DCPS policy.

Aspen

- Official grades are posted on the Aspen student and parent portal
- Any grades in Canvas might give you an idea of your progress, but these are not the official scores
- Note that grades in Aspen are manually transferred from Canvas, and it might take some time for teachers to update scores into Aspen. Thank you in advance for your patience

Class Expectations:

- **Be Engaged** (This means your video is on and you are actively participating, listening, asking questions, etc.)
- **Be Prepared** (This means that you are logged in at the start of class with a pencil and paper ready at hand)
- **Be Respectful** Be respectful to yourself, your peers, and me (This means that you listen to each other, speak when appropriate, and use appropriate voice and language)
- **Be Open-Minded** (This means that you are willing to take risks with your learning, challenge yourself, and bring a positive attitude to class)
- **Be Honest** (This means that you do your work individually, with NO cheating. Do the work and show yourself what you can accomplish. It's much more fulfilling)

Attendance:

If you are absent for any reason, you need to get your notes and work caught up immediately upon return. All assignments and resources will be available online via Canvas and DeltaMath. Just because you were gone does not make you exempt. If you are absent during a review day before a test/quiz, you are still responsible for taking that assessment on time. See me if you miss a test/quiz for ways to make it up!

Late Work Policy:

ALL late work from absences must be made up within **1 week** of a student returning to class. Extended absences will be dealt with on a case-by-case basis. Any work that is turned in past the due date can only earn up to 86% of the full assignment grade.

Scope and Sequence:

- I. Functions, Graphs, and Limits (1 Unit)
- II. Derivatives (4 Units)
- III. Integrals (3 Unit)
- IV. AP Exam Review
- V. Selected Topics

Examinations:

Mock AP Exam Goal: TBD (alternative: TBD)
AP Exam: May, 2023

Note: Things may change significantly during this course if unforeseen issues arise or virtual instruction resumes. For this reason, I reserve the right to unilaterally change the expectations outlined in this syllabus. If a change is needed, I will notify you prior to the adjustments so concerns can be expressed and addressed in a productive and satisfactory manner. Thank you for understanding the need for this addendum.

PARENTAL AND STUDENT ACKNOWLEDGEMENT

Parents/ guardians and student are requested to sign below as an indication that they have read the syllabus. Returning of this signed cut off slip will be a homework assignment recorded in Aspen gradebook. If you have any questions, comments or concerns about the syllabus or the class, please contact me by emailing me at Leland.Casey@k12.dc.gov.

Student Name _____ Signature _____

Parent/Guardian Name _____ Signature _____