

AP Calculus AB 2022-2023

Course Information											
Instructor: Chris Walters Phone: (425) 385-7132 email: cwalters@everettsd.org Extra Help Hours: 7-7:30 AM and 2 – 3 PM						Textbook: Calculus for the AP Course by Sullivan and Miranda Class website: http://www.everettsd.org/jhs-cwalters All instructional materials can be accessed through Canvas					
Course Description											
AP Calculus AB is equivalent to a first-semester college calculus course devoted to topics in differential and integral calculus. The AP course covers topics in these areas including concepts and skills of limits, derivatives, definite integrals, and the Fundamental Theorem of Calculus. The course teaches students to approach calculus concepts and problems when they are represented graphically, numerically, analytically, and verbally, and to make connections amongst these representations.											
This course will be offered for College in the High School credit through Everett Community College. This course will be 5 credits as MATH&151: Calculus 1 at a cost of \$220. Additional information will be provided in class and from the link on my website above.											
Learning Outcomes											
LIMITS - Evaluate limits graphically and using limit properties: one-sided limits, limits at infinity, infinite limits, indeterminate forms - Apply limits to understand the behavior of a function. - Use limits to determine continuity of functions INTEGRATION AND THE FUNDAMENTAL THEOREM OF CALCULUS - Understand the definition of a definite integral involving a Riemann sum - Compute definite integrals using geometric methods and the Fundamental Theorem of Calculus - Solve net change (i.e. motion), area, and volume problems using definite integrals - Analyze functions defined by an integral						DIFFERENTIATION - Know and use the definition of a derivative - Apply rules of differentiation: basic, chain, implicit and inverse - Apply derivatives to: - compute the instantaneous rate of change - find the slope of a tangent line - analyze the graph of a function - solve real-world applications: motion, related rates, optimization, exponential - Solve separable differential equations MATHEMATICAL PRACTICES - Implement a mathematical process - Connect different mathematical representation - Justify reasoning and solutions - Use correct mathematical notation - Communicate results or solutions					
Course Outline (AP exam weighting)											
1. Limits and Continuity (10-12%) 2. Differentiation: Definition and Fundamental Properties (10-12%) 3. Differentiation: Composite, Implicit, Inverse Functions (9-13 %) 4. Contextual Applications of Differentiation (10-15%) 5. Analytical Applications of Differentiation (15-18%)						6. Integration and Accumulation of Change: The Integral (17-20%) 7. Differential Equations (6-12%) 8. Applications of Integration (10-15%) 9. AP Exam Review (100%) 10. Integration and Accumulation of Change Integration Techniques					
Grades: http://www.everettsd.org/lms											
Classwork/Assignment: 10% Unit Tests and Projects: 90% No changes to grades will be made based on AP Exam results											
Letter Grade	A	A –	B +	B	B –	C +	C	C –	D +	D	F
Percent	100-93	92-90	89-87	86-83	82-80	79-77	76-73	72-70	69-67	66-60	59-0
GPA	4.0	3.7	3.3	3.0	2.7	2.3	2.0	1.7	1.3	1.0	0.0



Our mission is to provide a rigorous curriculum that sets high standards
and prepares all students for the future.

Classroom Policies & Expectations

Grading Policy

Mathematical Explanation for all problems: (may include the following but is not limited to)

- Algebraic steps
- Verbal explanations
- Graphs, tables, or pictures that are clearly labeled.
- Calculator entries, when using a calculator for computation.
- If using theorems, properties, or definitions with conditions, you must confirm the need conditions are met.
- Correct standard mathematical notation should be used.
- Decimal answers should be accurate to 3 places.
- Final answers can be equivalent to those provided.

Classwork/Assignments (5 points each):

- Expect daily assignments to practice the concepts.
- Assignments are due at the beginning of the next class, where time will be given to review answers.
- Assignments will earn 1 point for each problem
- Students are responsible for self-correcting and asking questions when they don't understand
- Late assignments will be accepted until unit test with a 10% reduction in score.
- Excused absences will have 1 week grade period before late penalty is applied

Assessments (100 points for tests, 50 for quizzes):

- Comprised of calculator and non-calculator questions
- If you are absent the day before a test, you will still be expected to take the test.
- All tests must be completed on the day they are started.
- Typical scoring of questions
 - Multiple Choice questions: 2 points each
 - Short answer questions: 5 points each
 - Correct Solution (2 points)
 - Mathematical Explanation (3 points)

Test Correction Privileges:

- Students who are absent (unexcused) on the day of the test will lose the privilege to correct that test.
- Student must complete test corrections before the next unit test.
- Corrections will earn back $\frac{1}{2}$ the points missed up to a max score of 85%.
- Must be completed in the classroom and not during class time, unless all required daily work is complete.

Extra Credit Opportunity:

- Bonus percentage points will be added to each unit assessment for the unit's assignments.
- Overall assignment score of 97% or higher earns 3% bonus on unit assessment, 87% or higher earns 2% and 77% or higher earns 1%

Behavior Expectations

- All school wide and district policies as described in the Student Handbook will be enforced.
- Students are expected to be respectful towards their peers, teacher, and the classroom.
- A hall pass to allow one student out of the room at a time will be available. Students must sign out and back in and be gone no more than 5 minutes.
- **No Electronic Devices** (cell phone, headphones, etc.) will be allowed during class, except a calculator and a district issued device or equivalent without permission from the teacher.
- Drinks are allowed if the bottle has a closable lid (spill proof).
- Food is **not** permitted, unless required for medical reasons.

Materials

- Textbook: available from the library for checkout.
- Notebook (paper or digital) of your choice to keep your notes and classwork organized.
- Scientific calculator required. A graphing calculator, such as the TI-83+ or TI-84 is highly recommended and is required for those planning on taking the AP Exam.

Tips for Success

You can learn mathematics, but it won't happen by itself. You will have to work at it!

1. Participate in class.
2. Take and review your notes each day.
3. Attempt all problems assigned and ask about the questions you don't understand.
4. Come in for additional tutoring when you first start to struggle.