This is an accelerated course for the college bound student who desires to tackle the AP test for advanced college credit in Calculus and Analytic Geometry. Included in the course are many applications of the calculus to the physical sciences, life sciences, engineering, higher mathematics, business and economics. The text used for this course follows the recommendations of the Committee on Mathematics for the Advanced Placement Program. The curriculum guide for the course, itself, is the prescribed curriculum guide as published by the Advanced Placement Program/College Board.

**Expectations***

*All rules/policies listed in the school/county handbooks will be followed.

**Be Respectful**

**Be Present**

**Be Prepared**

**Be Mindful**

**Grading**

50% Mastery (7)

50% Progress (at least 24)

Students may retake a Mastery Assessment (unit test) if they score below a 70%. Mastery assessments include unit tests, projects, or a cumulative assessment for the course.

**Progress Assessments** include classwork, homework, warm-ups, quizzes and/or other work completed for the course.

Work will be considered LATE after 3 school days and a deduction of points will occur. Late work will not be accepted after 10 school days.

**Materials**

- Textbook
- Notebook/Binder
- Pencils/Erasers
- Laptop/Schoology
- Calculator (TI-84)

**Academic Honesty**

All students at Queen Anne’s County High School are expected to conduct themselves with great pride in academics and the community at large. To this end, it is expected that all students will maintain academic integrity in every assignment. Work must be completed individually unless otherwise directed by the teacher. Plagiarism is a severe offense at QACHS and will result in immediate consequences. The use of Photomath and other electronic sources is a form of plagiarism.
Students must log into our class on schoology every school day to be counted as present, and they need to complete all daily work in order to keep up in the class. The teacher/school should be contacted if a student will be absent from class. Students are responsible for making up all missing work due to an absence.

**Attendance**

Synchronous – Join the video conference on time and have materials ready. These materials include pencil, paper, calculator and any websites needed to complete math work. Have Schoology open and ready to go in a browser. You are expected to be on the video conference for the duration of class. Please find a quiet place in your house and give yourself an area to work.

Asynchronous – Assignments that are asynchronous are to be done on your own; however, I am available for help during the designated asynchronous period. Also during this time you may be asked to attend a video conference for small group instruction. Small group instruction, if assigned, is mandatory.

Check-in Day – Every Wednesday there will be a brief 10 minute video conference or check in to provide a brief period of instruction and to ensure all students are on track with the current assignments. Students will also complete an asynchronous assignment on check-in day.

Office Hours – Every day except for Wednesday there are Office Hours set aside for reteaching, 1:1 or group tutoring, small group instruction and student/parent meetings. You may schedule a time during office hours for tutoring. You may also attend a tutoring or instructional video conference during office hours. Office hours are considered part of the school day, so tutoring or conferences scheduled during this time are mandatory. If there is an instructional conflict during the requested time, we will work together to find a time that works.

**Online Learning Expectations**

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<tr>
<th>Expectations</th>
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<tbody>
<tr>
<td>● Evaluating and Justifying limits, continuity</td>
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<td>● Calculating derivatives</td>
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<tr>
<td>● Applying the concept of the derivative</td>
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<td>● Applying the concept of the integral as an</td>
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<td>● Manipulating logarithmic and exponential</td>
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<td>● Solving first order separable differential equations</td>
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**Course Outcomes**

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<tbody>
<tr>
<td>College Board: AP Calculus AB</td>
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<tr>
<td><a href="https://apstudents.collegeboard.org/courses/ap-calculus-ab">https://apstudents.collegeboard.org/courses/ap-calculus-ab</a></td>
</tr>
<tr>
<td>Students will be using an online resource provided by college board daily.</td>
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</tbody>
</table>
1. While on Schoology, what I say and how I say it will be school appropriate.
2. I will use posts to discuss school-related content only.
3. I will use a respectful tone of voice when posting. All school rules and consequences related to harassment apply to Schoology.
4. I will use appropriate grammar instead of texting language.
5. I will not reveal any personal information on Schoology. This includes telephone numbers, addresses, emails, etc.

**Posting & Replying to Messages or Comments**

- Post a note to the whole group if your question is about something the whole group should know (assignments, instructions, due dates etc.)
- Send a note only to your teacher if you want to talk about something that doesn’t relate to everyone.
- Don’t post questions or comments about personal issues or topics. Keep private information private.
- Keep your conversations on topic.
- If you’re not sure if a word, joke, or image is okay, then it’s probably not. DO NOT write posts that tease, bully, annoy, spam, or gossip about any other person.

**Inappropriate Content**

- If you think there is something inappropriate posted on Schoology, please tell your teacher immediately!

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**Study Groups**

I highly encourage you to form small study groups. Find a few (2-4) students in the class that you can work well with and meet daily/weekly to help each other with concepts from the course. We can set up small group instruction with a study group as needed.

**Big Ideas in AP Calculus**

The big ideas serve as the foundation of the course and allow students to create meaningful connections among concepts. They are often abstract concepts or themes that become threads that run throughout the course. Revisiting the big ideas and applying them in a variety of contexts allows students to develop deeper conceptual understanding. Below are the big ideas of the course and a brief description of each.

**BIG IDEA 1: CHANGE (CHA)**

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.

**BIG IDEA 2: LIMITS (LIM)**

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 (BC only).

**BIG IDEA 3: ANALYSIS OF FUNCTIONS (FUN)**

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.

**How to Succeed**

- Do the work
- Take good notes
- Redo the work
- Show work...all work
- Don’t give up
- Ask questions
- Come to class ready to learn
- Ask for help when needed