**AP Calculus AB Information**

**Course Syllabus and Expectations 2019-2020**

**GBHS: (850) 916-4100**

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“The best (only) way to LEARN Calculus is to DO Calculus!”

Welcome back and welcome to Advanced Placement (AP) Calculus AB class!

**Class Objectives:** After completing this course the student will have the ability to:

* Identify and apply properties of algebraic, trigonometric, exponential and logarithmic functions.
* Apply the concept of limits to functions.
* Find derivatives of algebraic, trigonometric, exponential and logarithmic functions.
* Find derivatives of the inverse of a function.
* Define the relationship between differentiability and continuity.
* Apply derivatives to find the slope of a curve and tangent and normal lines to a curve.
* Identify increasing and decreasing functions, relative and absolute maximum and minimum points, concavity, and points of inflection.
* Find antiderivatives.
* Apply antiderivatives to solve problems related to motion of bodies.
* Use techniques of integration.
* Find approximation to define integrals using rectangles and trapezoids
* Apply the knowledge of integral calculus to find the area between curves and the volume of a solid of revolution.
* Identify and sketch slope fields of differential equations.

**Prerequisite:** Pass Trigonometry/Pre-calculus (Honors or Dual Enrollment)

**Textbook: Calculus** by Finney, Demana, Waits, and Kennedy; Copyright 2010;

Pearson/Prentice Hall Publishing Co. ($103.97)

 **Materials needed:**

* One and a half inch (1.5") three-ring binder, 4 dividers with tabs and some loose leaf paper (about 80 sheets).
* Pencil with eraser.
* A graphing calculator (TI-84 Plus or TI-89) is highly recommended.

**Attendance Policy:**

Since higher grades are traditionally earned by students with fewer absences, attending class on-time each day is very important. This class will follow the GBHS attendance policy.

**Homework:** Learning Math should not be treated as a "spectator sport;” you're learning the materials by doing it, not by watching someone else do it. You should expect on a minimum of 45 minutes to 1 hour of homework outside of class each day. If you’re thinking, “well, I’ve breezed through math so far; certainly I won’t be doing 45 minutes outside of class”, I can say from experience that you are probably wrong. Don’t find this out after it is too late to catch up!!!

In addition:

1. Homework should be done in pencil.
2. All work must be shown -not just a list of answers (NO WORK-NO CREDIT!)
3. When odd numbered problems are assigned, students should check the answers in the back of the book and mark the ones they have missed or would like to ask about the next day in class. If a student cannot even begin a problem, he/she should copy the problem down, leaving room to work it, and ask about it the next day.
4. Homework assignments are due at the beginning of the period the day after they have been assigned.
5. Proper paper heading: Full name and period number in the upper right corner of the paper. Section number, page number and problem assigned should be placed on the first line.
6. Homework will be checked by various means each day.
7. **Late homework will not be accepted** unless a student has an excused absence.

Homework assignments will be graded in one or a combination of the following: by quick check system, by collect-grade-return system or by homework quiz system. I'll explain this more as we go.

**Tests and Quizzes:** There will be 3-4 tests each 9 weeks.

All students are expected to take the scheduled test on the scheduled day. If a student cannot finish a test during the regular class period, he or she must notify Mr. Phan to get permission to return after school to work for 20 more minutes; however 20% will be deducted from his or her score. A retest will be offered only in special circumstances defined by the instructor. The highest grade for a retest is a 75%. Tests will be given with at least 3 days advanced notice; quizzes will be given with or without advanced notice.

**Three-ring Binder Notebook:** Should be 1½ inches thick and should contain math material only.

The 3-ring binder helps students organize and be successful at Math. It is divided into 4 sections: Notes, Homework, Handouts and Quizzes/Tests. The 3-ring binder will be collected and graded periodically.

**Nine Weeks Grading:**

Your grade will be determined: Grading Scale: **The final nine weeks**

Classwork: 10% 90-100%: A **grade is largely**

Homework: 15% 80- 89%: B **determined by**

Quizzes: 25% 70- 79%: C **preparation in and out**

Tests/Projects: 50% 60- 69%: D **of school and on**

 0- 59%: F **weekends for the AP exam!**

**Classroom Expectations:**

There is no way to cover every situation. As a guide for you, I have listed a few important rules that I expect you to follow:

1. **Punctuality:** Students must be in the room when the tardy bells begin to ring.

2. **Preparedness:** Students are expected to bring their book, 3-ring binder notebook, and completed homework everyday.

3. **Industry:** Students will use math class to do math only. Sleeping, reading, or doing homework from other classes is not permitted. **Also students should use the restroom during the 5 minutes break between classes.**

4. **Manners:** A student should raise his or her hand to speak. He or she should also respect the rights, property, and feelings of other students and Mr. Phan.

5. **Honesty:** Cheating (giving or receiving answers on tests, quizzes, homework or discussing exam questions from period to period) will not be tolerated. A cover sheet will be required during each quiz and test. Copying someone else’s homework is cheating. Both parties involved will receive a zero on that assignment or test.

\*\*I will follow school policy regarding absences, tardies, cheating, etc. Students may be asked to stay after school as a result of poor behavior. Parents will be contacted for persistent problems.

**Cell Phone, Tardy/Attendance and Cheating/Plagiarism Policies**

Cell phones will **NOT** be out anytime during class, unless otherwise instructed. A “cell phone locker” to safely store and charge your smartphone is provided in class and will be utilized daily. Once again this class will follow every rules and regulations from GBHS student handbook such as tardy, cheating, etc.

Extra help:

If you have ANY questions or concerns during the year, PLEASE feel free to stop by my room before or after school. Also, there is a Math Lab held in this room (308) every Tuesday and Thursday before school from 8:00 to 9:00. Best of all it’s FREE.

**Expected outcomes:** After successfully completing this course **all** students will be expected to prepare for and take the AP Calculus AB exam at 7:00 a.m. Tuesday May 5th, 2020 and **will** **score a 3, 4, or 5** and enter college with a strong foundation in differential and integral calculus. Let’s ALL go for it!!! Prepare, Prepare, Prepare!!

Form study groups and remember – No whining allowed!!

“It’s not the I.Q. but the ‘I WILL’ that’s important!”

Good luck and let’s have a GREAT year at Gulf Breeze High!

And remember what legendary martial artist Bruce Lee said:

“I fear not the man who has practiced 10,000 kicks once, but I fear the man who has practiced one kick 10,000 times”.

So keep on practicing those new calculus concepts “10,000 times”!!!