

Plainfield High School Central Campus



AP CALCULUS AB

Mrs. Constance Billerman
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2021-2022

Room: J439

COURSE DESCRIPTION:

This course is a standard first semester college course in the Calculus of elementary functions. In this course, students will develop understanding and skills associated with limits, techniques and applications of differentiation, and the introduction to the techniques and applications of integration. We will approach concepts and topics graphically, numerically, analytically, and verbally. Technology will be integrated throughout the course to develop and enhance the curriculum. Students will perform college level work and are expected to take the Advanced Placement exam.

REQUIRED MATERIALS:

TEXT: Stewart, James. Single Variable Calculus, 6E, Belmont, California: Brooks/Cole – Thomson Learning, 2008.

MRS. BILLERMAN'S WEBSITE: PHS website (pchs.psd202.org). Choose Our School, Teacher Pages.

GOOGLE CLASSROOM: Use to submit work that has been requested to be turned in.

CALCULATOR & COMPUTER: Your fully charged school laptop is required. Graphing Calculator Required (TI-84 or TI-84 Plus Preferred). *Note:* TI-NSpire CAS and TI-89 calculators are not allowed due to their advanced functionality.

SUPPLIES: *You need these materials every day.*

- Pencil Pouch containing:
 - **Two sharpened pencils** and an **eraser**.
 - Six erasable colored pencils.
 - Two pens (not red, pink, or orange) and two highlighters.
 - One or two Dry Erase markers.
- Math Binder** (3-ring binder with tabs, **loose leaf paper**, and **graph paper**.)
- Graphing Calculator.
- Your Student ID and Agenda Book (or class calendar). (Note: Your id is also helpful as a straightedge.)
- Tissues (for yourself).

UNITS OF STUDY

Chapter	Chapter Description
1	Functions and Models
2	Limits
3	Derivatives
4	Applications of Derivatives
5	Integrals
6	Applications of Integration (& Trapezoidal Rule Integration in Chapter 8)
7	Inverse Functions: Exponential, Logarithmic, & Inverse Trig Functions
10	Differential Equations (Selected Sections)

GRADING:

Course grades will not be based upon a total accumulation of points. Instead, student grades will be determined based on following weighted categories:

80% Coursework:

60% **Assessments** (quizzes, tests, projects)

40% **Practice** (requested homework problems for turn-in, graded non-assessment assignments)

20% Semester Final Exam

HOMEWORK:

Students should expect problems for practice almost every day. Students should be prepared to turn in any homework problem that has been assigned. Be prepared for collection of an entire assignment as well as HW Checks for which you will be required to write out and turn in specific requested homework problem(s).

HOMEWORK FORMAT:

- Homework should be done **in pencil** and must provide proper heading as shown.
- Problems need to be completed in order, and problems must be numbered clearly.
- Show full work as demonstrated in lessons, on every problem.

Name (First & Last)
Date HW Was Assigned
Period #
Assignment (Page & Problem #'s)

TURNING IN HOMEWORK:

Students should be prepared to turn in work in the classroom or via Google Classroom as requested. The proper heading is required on all assignments no matter how the work is requested. Requested work will be scored based upon effort, quality, completeness, and accuracy.

ABSENCE POLICY:

Students are responsible for making up missed work and assessments. Students will find the planned work on the calendar plan which students can find posted on Mrs. Billerman's website and on Google Classroom. Students should use Mrs. Billerman's website to access all related lesson materials, including warmups, videos, and my lesson keys. The answers to the odd-numbered exercises are located in the back of your textbook.

Make every effort to make up missed work within two days and to make up missed assessments within one week. These makeup timeframes are for your benefit. With math, our learning continues on, and students fall behind so quickly if work is not made up in a timely manner. That said, if you have an extended absence or special circumstance, please contact me via email.

EXPECTATIONS AND TIPS FOR SUCCESS:

CLASS RULES & DISCIPLINE POLICY:

Please act as if you are already in college. Be responsible, respectful, and kind. Exhibit a consistent and well-defined work ethic. Show dedication to your learning and your goals. I am not expecting inappropriate behavior; however, in the event of educational disruptions, possible consequences include:

Warning/Consultation, Removal from online session, Parental Contact, Detention, and Referral to the Dean.

CLASSROOM CELL PHONE POLICY:

Cell phones are a huge distraction and impact learning. Therefore, all cell phones must be silenced and:

- ✓ Students are not allowed to use or have cell phones out in the classroom, **including passing periods**.
- ✓ Cords must not be visible in the classroom. Cords in the ear(s) or dangling on the body are not allowed.
- ✓ Prior to all assessments, all students will be required to place silenced cell phones and advanced function watches in book bags which will be placed in a designated spot in the classroom.
- ✓ All students will be required to "park" their silenced cell phone when requesting to use the restroom

MATH BINDER:

Create, maintain, and use a Math Binder because it will facilitate organization of documents and provide an effective study resource. This 3-ring binder should have tabs, loose leaf paper, and graph paper. Homework should be done on loose leaf, three-hole paper. Establish clearly marked sections of your choice. I recommend having a section for Definitions/Theorems. Other sections you may want to include are Warmups, Lessons, HW, Reviews, and AP Prep.

TIPS FOR SUCCEEDING THIS COURSE:

- ❑ **Strive for 100% attendance. You will miss a huge amount of content in just one day.** When absent, make up missed work.
- ❑ Read your textbook. It's the best explanation a team of experts could come up with.
- ❑ Arrive to class on time, bring all required materials, and adhere to all classroom and school rules.
- ❑ Retrieve the class calendar and be aware of all assignments, due dates, and upcoming assessments.
- ❑ Maintain a complete Math Binder. File all papers in your math binder under the appropriate tab.
- ❑ Take good notes; you can refer to them later when you are doing the homework.
- ❑ Complete all lessons and assignments daily for **mastery**. Use all related materials and support materials. Do your homework and make corrections. Practice makes permanent. Be sure you are doing it right.
- ❑ Focus on your learning. Use time inside and outside of class wisely. Work ahead and/or get additional practice on weekends. (See *Weekend Tasks* below.)
- ❑ Get help if needed ASAP. Don't wait until we are about to take a test.
- ❑ Prepare for assessments *from the start of each chapter* rather than waiting to study until the night before the assessment. Build a one-page study sheet with key concepts, formulas, etc. Read through the applicable lesson sheets and definitions/theorems each night. Every time you go over the material, you strengthen your understanding and mastery. Rework problems and seek help as needed. Practice writing out formulas on a blank sheet to see what you truly know.
- ❑ Check online each week for your grade and missing assignments.

WEEKEND TASKS: *(in addition to regular homework)*

- ❑ Get and stay organized.
- ❑ Review previous week's material. All set? Do you still have concepts or questions to be resolved?
- ❑ Preview upcoming week's lessons.
- ❑ Prepare for upcoming assessments.

LATE POLICY:

Late assignments will be accepted for one week from the due date. A 50% penalty will be applied. Late assignments must be neat, complete, show all work, and include the required heading format.

GETTING HELP:

- ❑ Reviews of Algebra, Analytic Geometry, and Conics are posted on Mrs. Billerman's website (Calc – Accessing Text Related Materials folder).
- ❑ To review trigonometry, see Appendix D in your textbook. Our text is also available on Mrs. Billerman's website (Calc – Accessing Text Related Materials folder). Also, check out Trig Related Videos on Mrs. Billerman's Website (Chapter 1 – Videos folder).
- ❑ View additional videos in the "Calc – Accessing Help Information" folder on Mrs. Billerman's website. So far, I have posted a link for Calculus instructional videos from the patrickjmt website and a list of Algebra 2 related Khan videos.
- ❑ Check materials, such as lesson keys and videos (in chapter folders) on Mrs. Billerman's website.
- ❑ Seek help (one-on-one and/or small group settings) within the classroom during activity work or take advantage of possible extra help opportunities during study hall
- ❑ Extra help with Mrs. Billerman is by appointment. Completed lessons are required to schedule an appointment. Several students may be scheduled for each help appointment. Students are expected to come with their materials and specific questions to discuss.
- ❑ Consider checking or working remotely with a classmate.

GRADING SCALE:

A	90 - 100%
B	80 - 89%
C	70 - 79%
D	60 - 69%
F	0 - 59%