

Dear AP Calculus BC student (or parent):

[If you are a parent, I would greatly appreciate if you could make sure your child receives this email from his calculus teacher! Thank you!!]

Congratulations and Welcome! You are receiving this letter because you are on the AP Calculus BC roster for 2020-2021. This is the year when all your many years of math finally come together: algebra, geometry, trigonometry and pre-calculus, and we can see the power of mathematics in action! This class will prepare you to take the AP Calculus BC exam in May 2021, which can potentially qualify you for 2 semesters of college calculus. If you believe you are getting this message in error, please send me a quick email so we can ensure you are in the right math class.

I am excited to introduce myself one of two AP Calculus BC teachers this year. I am Mrs. Diana Shak. I graduated from Stanford University, where I received a bachelor's degree in Math Sciences and a master's degree in Computer Science. I worked as a software database engineer and instructor at Tandem Computers for 10 years prior to transitioning to teaching. It's hard to believe that this will be my 16th year teaching AP Calculus BC at Valley Christian! I feel blessed to have a job where I'm able to share my love for God, students, and mathematics on a near daily basis! I am a mother of three: all VCS alums and AP Calculus BC graduates (2 Stanford graduates, 1 at UCLA).

Exciting news! Due to the popularity of AP Calculus BC, we are blessed to have a veteran teacher join me in teaching AP Calculus BC this year. Many of you know Dr. Ted Shim, as this will be his 8<sup>th</sup> year at Valley Christian, teaching many levels of math including honors geometry, algebra 2, and Trigonometry/Pre-Calculus AB and BC. He has a PhD in Electrical Engineering, minoring in Mathematics from NYU, with 20+ years' experience in industry. Some of you may also know Dr. Shim as co-advisor for Math Club. He is excited to teach AP Calculus BC, as calculus has always been one of his favorite math subjects!

Your textbook is Calculus of a Single Variable, 11<sup>th</sup> Edition, by Larson, Hostetler, and Edwards. We are offering the online version of the textbook through WebAssign ([www.webassign.com](http://www.webassign.com)). Students should wait until after their first day of calculus class before purchasing their online textbook thru WebAssign. For students who prefer a hardback textbook, you are certainly welcome to purchase or borrow a used hardcopy (11<sup>th</sup> edition is what we're using this year, although older versions are fine for reading/studying purposes). Please note that everyone will be required to purchase the WebAssign account for ebook and homework.

In addition to the lower fees for the digital textbook, WebAssign offers corresponding video tutorials that accompany each chapter. These videos will be especially helpful for topics you find particularly difficult, or for times when you may be absent. In calculus, it is extremely important that students learn how to **SHOW FULL WORK**, often justifying a correct answer. While most of our textbook homework will be submitted online through WebAssign, **you will also need a spiral bound homework notebook to show your work** and thought process. These notebooks will be collected and graded periodically throughout the semesters as a part of your binder checks.

We will be using the TI84+ graphing calculator in class. Please bring your calculator every day. If you have a different model, you will need to verify that it is an acceptable calculator for the AP exam. Feel free to check with me or the AP web page, [www.collegeboard.com](http://www.collegeboard.com), for the list of acceptable calculators for AP Calculus.

AP Calculus BC is a challenging fast-paced course. You have qualified for this course only if you received good grades in Honors Trig BC or AP Calculus AB (or its equivalent), and with personal recommendation from your previous math teacher. If you are concerned whether you have met pre-requisites for this course, please note that we also offer AP Calculus AB. The difference between the 2 courses is the pacing: AP

Calculus BC will cover 3 more chapters, compared to AP Calculus AB. See your counselor if you think you may be more suitable for the slower paced AP Calculus AB course. To help you review and prepare for Calculus BC, following is the **required** summer homework:

- Do both Summer Packets. **Due 1<sup>st</sup> day of class for your first homework grade.** (Do not wait for the last minute to do this packet, as it is a bit lengthy). To find summer homework online:
  1. Go to <https://learn.vcs.net/course/view.php?id=1112>
  2. Select the Math tab (on the left) and find homework for AP Calculus AB & BC\*\* NOTE: You may want to check out the other departments as well while you are here to see if you have summer homework assignments for your other classes.
- If you do not have access to a printer (or if more convenient), you can work on the packet in Notability, and generate a PDF of your work.
- Since school is starting virtual this year, all students will be required to submit their summer homework digitally (PDF). If you did your summer homework on paper, please see the following short youtube videos that show you how to use your phone to scan a document:
  - iPhone: <https://youtu.be/16nwB3P78GQ>
  - Android: <https://youtu.be/0afrZE3416w>
- **Please note that AP Calculus BC students have 2 packets:** 1<sup>st</sup> packet reviews pre-requisite skills for both AB and BC students. 2<sup>nd</sup> packet reviews pre-requisite skills for just BC students.
- [optional] If pre-requisite skills are rusty, I highly recommend the following book, Stepping Stones to Calculus (<http://steppingstonemath.com/>) which covers important skills from fractions and exponents all the way to trigonometry and infinite series (for only \$30). Skim over sections during the summer and work through topics that you need to relearn or review.
- Review Unit Circle. This is included in the summer packet. Make copies of Unit Circle Worksheet and practice repeatedly until you are very familiar with trig functions of these basic angles.
- Please note that for AP Calculus BC, I will be going over Calculus A topics very quickly. These topics include preparation for calculus (topics covered in summer packet), limits, and introduction to derivatives. These topics should have been covered in your honors trig or AP Calc AB course.
- **NOTE: For Students who just completed AP Calculus AB with Mr. Nyberg before coming into Calc BC:** the 1<sup>st</sup> summer packet will be optional for you, since you did this homework last summer before AP Calc AB. If you don't remember doing this packet, or would like to review your algebra/geometry/trig/precalculus during the summer, then do this again ... good way to keep your math skills sharp during the summer! **2<sup>nd</sup> packet is DEFINITELY REQUIRED** for you as it reviews skills you haven't seen in a long time.

**Answers for the summer homework packet have been posted for you to doublecheck.** Of course, you will not get credit for summer homework if you show answers only, without showing the work! Make sure to only use the solutions to check your work not do the homework!

If you have questions about the class or the summer homework, feel free to email me at [dshak@vcs.net](mailto:dshak@vcs.net). I will check email periodically throughout the summer. I look forward to getting to know each of you soon. I will be praying for each of you before our first class. Enjoy the rest of your summer!

Sincerely,

*Mrs. Diana Shak and Dr. Ted Shim*

Mrs. Diana Shak (AP Calculus BC and Multivariable Calculus)

Dr. Ted Shim (AP Calculus BC and Honors Trig Pre-Calculus BC)

Valley Christian High School