

# Calculus BC 1

## Preliminary Notes – Course Syllabus/Class Expectations

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**Overview:** You'll find Calculus to be a very exciting topic. You should be prepared to ask questions. (Why do I capitalize "Calculus" but not "algebra?" What is the connection amongst the words *Calculus*, *calculate*, and *calcium*? ...) Calculus is a branch of mathematics dealing with three key problems:

1. the "slope" of a curve
2. how to multiply *rate* times *time* when rate changes as a function of time
3. compute values of non-arithmetic functions

One of the many nice features of Calculus is that everything we do ultimately goes back to one or more of these three problems.

### Text:

Single Variable Calculus (2011 Edition),  
by David Guichard, et al.

This open source textbook is available as a free PDF. <sup>1</sup> You need not bring your text to class as we have copies of the text for use of each group in the classroom.

**Coverage:** Calculus BC covers chapters 1 thru 7 in the first semester.

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<sup>1</sup>[www.whitman.edu/mathematics/calculus](http://www.whitman.edu/mathematics/calculus)

**Website:** My website ([www.tetrahedra.net](http://www.tetrahedra.net)) contains this document and other information for the class. The website is updated often and is an important resource.

### Supplies:

- a graph paper spiral notebook
- a three ring binder (or plastic folder) divided into four sections
- a graphing calculator <sup>2</sup> (preferably a TI-83/84 Plus)
- a ruler, showing both inches and centimeters
- pencils and an eraser
- a red pencil and a blue pencil

**Binder Organization:** Label the dividers for your notebook as follows:

- Daily Work and Notes - Most of your daily work, both classwork and homework should be done in the graph paper notebook.
- Reports and Projects
- Quizzes and Tests
- Reference e.g. this handout, a list of definitions

**Cooperative Learning:** Math is not a spectator sport. By working in small teams of three or four students, you will learn math by doing math.

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<sup>2</sup>Please see me if purchasing a graphing calculator is an economic problem. Arrangements can be made.

### **Guidelines for Working in Teams**

1. You are responsible for your own behavior. (No student has the right to interfere with another student's right to learn.)
2. You must be willing to help anyone in your team who asks. (But don't give the answer or tell someone how to work a problem unless you are asked.)
3. Only when ALL STUDENTS at your team have the SAME question may you ask the teacher for help.
4. Use group voices. (The volume of each student's voice should remain reasonable and within the hearing range of his/her group only.)

**Homework:** You will be assigned homework in preparation for every class meeting. Homework will be checked. When assignments are collected, they will be returned for filing in your binder. In general, most of the daily homework should be written in the graph paper notebook. Unless otherwise stated, I do not expect you to spend more than 60 minutes on any one night assignment. Some of the homework will be done on-line is the Mathematics Association of America's *WeBWorK* system. <sup>3</sup>

**Getting Help:** When not teaching, I can usually be found in the office behind room S-202 (just above my classroom). You should feel free to stop by my desk during mods 9-10 or mods 14-15. You can also make an appointment to see me at some other time (e.g. after school).

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<sup>3</sup>Many colleges and universities now use WeBWorK in their Calculus courses. See [webwork.maa.org](http://webwork.maa.org) for more background information.

**Grading:** Grades for each marking period will be weighted approximately according to the following percents:

- Classwork/Homework/Reports 20%
- Quizzes/Tests 70%
- Participation 10%

Tests will be given every other week. Grades are calculated based on total points, but not on predetermined cut-off levels. Students whose totals are close to each other receive the same grade; cut-offs are where there is a relatively large gap between one total and the next highest. End of semester exam will count 20% of the semester grade.

**Class Policies:** You are expected to show up to every class on time and be an active participant. Students are encouraged to work with other students on regular homework assignments, but this does not mean that you should simply copy another student's homework. Tests are strictly an individual effort and cheating will not be tolerated. If you are absent, you will be expected to make up any missing assignments. Students who have an excused absence on the day of a test or quiz may makeup the exam, but need to do it during free mods – not during class time. Be sure to check the web page frequently.