Learning Calculus

Welcome to the WWOC – the Wonderful World of Calculus! To help you be successful, please read over the following suggestions.

One of the best ways to learn anything is to explain it to someone else.

Form a calculus study group.

Amaze your friends and family with explanations of how to determine limits or how to compute derivatives.

Math is not a spectator sport.

You will need to actively participate – you will need to exercise your brain.

Some of the problems will require some serious thinking.

Take time with them, talk about them, take breaks if you are getting frustrated (but a certain amount of frustration is good), and ask questions if you are stuck, enjoy the process: you are learning!

Thinking and understanding concepts will be emphasized here.

Many problems that require calculus cannot be solves with the simple application of a formula.

Understanding the process for solving a particular type of problem is emphasized over memorizing formulas.

In most cases, if you understand the concepts, memorizing a formula becomes unnecessary because you construct the process as you solve the problem.

Classes are held for your benefit.

If attending class were not important, all courses would be by correspondence and your teacher would be able to spend most of her year on vacation.

There is a direct correlation between grades and class attendance.

Mathematics is sequential.

Most everything that you have learned in algebra, geometry, and trigonometry will be used in calculus.

And as we progress through calculus, what we learn in chapter 3 will be used later in chapters 5 and 6.

Do not cram for tests and then forget the material immediately afterward.

Just as you must play a lot of basketball (or video games) to be good at it,

you must do a lot of calculus in order to be successful.

At minimum, work every problem that your teacher assigns for homework.

If you are having trouble or want more practice, work other problems in that section.

Work problems more than once.

When reviewing or redoing a problem, think about why you take the steps that you do.

Remember, the process is more important than the result.

The fastest way to get into trouble in calculus is not to do the homework.

You must practice what we have discussed in class.

Similar problems will probably show up on tests and quizzes and exams, where you will be expected to work them quickly and accurately.

Also remember that you will get more out of your homework time if you minimize distractions (turn off the TV or stereo system).

Tests and Exams can be the bane of your existence or they can be showcases of your mastery of the material.

When studying for them, work every homework problem assigned in the sections, paying special attention to your methods.

Review and work through examples in your notes, again with emphasis on the process being used.