

Surviving Calculus

Up to this point your mathematical education may have consisted mostly in mastering isolated techniques with seemingly no purpose to them. You may have learned to solve simple word problems in algebra, but they may have seemed pointless or unrealistic. Calculus is the course in which you begin to see the utility of the techniques you have learned so far and to put them together to solve the type of problems typically encountered in fields such as physics, chemistry, biology, engineering, economics and, of course, pure mathematics.

The challenging part for many calculus students is putting together all the pieces you have learned in isolation from each other: algebra, trigonometry, and geometry. There is also more emphasis on word problems, which is uncomfortable for some students because you are asked to formulate a solution and pull together several techniques without much guidance.

My advice for surviving calculus, beyond the five tips for studying mathematics I outlined, is to continually review algebra, trigonometry and geometry as needed so that you can concentrate on the new calculus techniques you are learning in this course. Know that there is a difference between understanding how to solve a problem and actually working out the details correctly on your own. Seek out help from me and from the math tutors here on campus as needed.

It may also be helpful for you to bear in mind why you are studying calculus:

Practical Reasons: required course, preparation for your major, last hurdle before graduating

Aesthetic Reasons: trains the mind, interesting, fun

Keep in mind why you are taking this course. When the going gets rough, remember why you're doing this.