

How to Succeed in Beginning Calculus

Almost no one fails calculus because they lack sufficient "mental horsepower". Most people who do not succeed are unwilling (or unable) to devote the necessary time to the course.

Mathematics has to be done to be learned. Just like any other skill, doing mathematics becomes easier with hard work, practice, and willingness to challenge yourself.

- *Practice!*

- **Do NOT get behind!** It is NOT easy to *catch up* and *keep up* at the same time. A much safer approach is to work hard for the first month and then evaluate your situation. If you do get behind, spend a part of your study time catching up, but spend most of it trying to follow and understand what is going on in class.
- **University course rule:** In most of your university courses, for every 1 hour of class you need to spend on average 2-3 hours outside the class studying. This means for our course, at least 6-9 hours of weekly work, in addition to 3 hours of class lectures.
- **Work the Problems:** Work on the assignments, quizzes, and suggested problems and check the solutions; they are the crucial and primary way to learn the material. Practice WebWork problem and Suggested problems to prepare for exams. Don't look for short-cuts!

- *Benefit from the helpful resources!*

- Attend the **class**. You need to hear the vocabulary of calculus spoken and to see how mathematical ideas are strung together to reach conclusions. You need to see how a knowledgeable problem solver approaches problems. You need to hear the announcements about homework and tests. And you need to get to know some of the other students in the class. If you must miss a class, ask a classmate what material was covered and skim those sections before the next class. **Ask questions** in lecture. If you don't understand something then probably half the class doesn't either.
- Attend all **workshops**. You'll quickly appreciate these activities as helpful to your learning.
- Come to the **office hours**; I will be lonely, so don't worry, overcome your fears, come visit, and ask me questions.
- Go to **MLC**. There, you'll find TA's who help you with your math problems at no charge. Also, you can work in groups with fellow students.
- Ask questions of **fellow students** in person or on Piazza. They would help you see the way past an obstacle.
- The **textbook** and online resources may help. However, don't get hooked on online tools and videos unless you are sure they are good for you.