Majors that typically REQUIRE Calculus (a partial list):

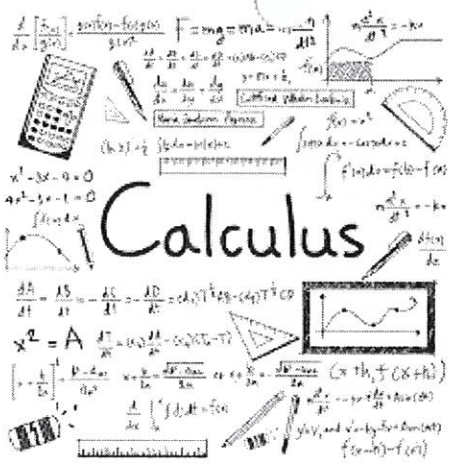
- All types of Engineering
- Computer Science
- Accounting
- Finance
- Marketing
- Economics
- Sociology
- Any Science Major
- Medicine
- Pre-Pharmacy
- Mathematics (duh!!)
- Statistics

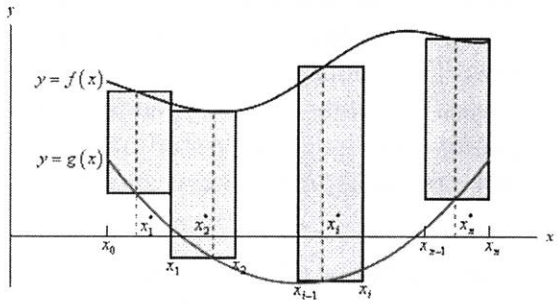
From Forbes.com

Top 7 Majors That Can Get You a Job:

1. Computer Science*
2. Economics*
3. Accounting*
4. Business*
5. Sociology/Social Work
6. Mathematics*/Statistics*
7. Psychology

*Require Calculus

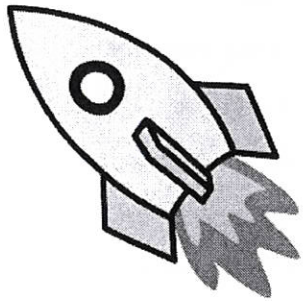




Summary of Common Maclaurin Series

$\frac{1}{1-x} = \sum_{n=0}^{\infty} x^n = 1 + x + x^2 + x^3 + \cdots$	R = 1
$e^x = \sum_{n=0}^{\infty} \frac{x^n}{n!} = 1 + \frac{1}{1!}x + \frac{1}{2!}x^2 + \frac{1}{3!}x^3 + \cdots$	R = ∞
$\sin x = \sum_{n=0}^{\infty} (-1)^n \frac{x^{2n+1}}{(2n+1)!} = x - \frac{x^3}{3!} + \frac{x^5}{5!} - \frac{x^7}{7!} + \frac{x^9}{9!} - \cdots$	R = ∞
$\cos(x) = \sum_{n=0}^{\infty} (-1)^n \frac{x^{2n}}{(2n)!} = 1 - \frac{x^2}{2!} + \frac{x^4}{4!} - \frac{x^6}{6!} + \frac{x^8}{8!} - \cdots$	R = ∞
$\tan^{-1}(x) = \sum_{n=0}^{\infty} (-1)^n \frac{x^{2n+1}}{2n+1} = x - \frac{x^3}{3} + \frac{x^5}{5} - \frac{x^7}{7} + \cdots$	R = 1
$\ln(1+x) = \sum_{n=0}^{\infty} (-1)^n x^n \left(\frac{1}{n}\right) = x - \frac{x^2}{2} + \frac{x^3}{3} - \cdots$	R = 1
$(1+x)^k = \sum_{n=0}^{\infty} \binom{k}{n} x^n = 1 + \frac{kx}{1!} + \frac{k(k-1)}{2!}x^2 + \frac{k(k-1)(k-2)}{3!}x^3 + \cdots$	R = 1

AP Calculus



Yes, it IS rocket science!

What is AP Calculus?

AP Calculus is a college-level introductory calculus class taught in high school.

It is primarily concerned with developing understanding of the concepts of calculus and providing experience with its methods and applications. The course emphasizes multiple representations by expressing concepts, results, and problems graphically, numerically, analytically, and verbally.

Examples of applications:

- Accelerating velocity
- Slope of a curve
- Area under a curve
- Area of a curved region
- Volume of a curved 3-dimensional object
- Maximizing and minimizing cost, profit, velocity, acceleration
- L'Hôpital's rule
- Continuously changing rates
- Position, distance, velocity, and acceleration of objects
- Exponential growth and decay

Difference between AB and AB/BC

AP Calculus AB is a one-period year-long course. Students are encouraged to take the AP Calculus AB exam in May. Specific topics include functional analysis, limits, derivatives and their applications, and integrals and their applications. A graphing calculator is used at appropriate times throughout the course. Students will earn one high school math credit for AP Calculus AB.

AP Calculus BC is a year-long course. It includes all of the topics in Calculus AB and additional topics in differential and integral calculus. These additional topics include parametric and polar functions, additional integration techniques, improper integrals, and polynomial approximations and series.

The depth and rigor of the AB topics will be the same for both topics, but the AB/BC class will learn the topics at twice the pace.

Who teaches AP Calculus?

AP Calculus AB and AP Calculus BC is currently taught by Mr. Vallecillo

What year can I take AP Calculus?

11th and 12th graders who have completed Accelerated Pre-Calculus with a solid B can take AP Calculus AB. It counts for a high school math credit towards graduation, it is a weighted grade, and it will look great on your college applications. It is possible to take AP Calculus AB simultaneously with AP Statistics.

11th and 12th graders who have completed Accelerated Pre-Calculus with at least one A in Accelerated Math courses. It counts for a high school math credit towards graduation, it is a weighted grade, and it will look great on your college applications. It is possible to take AP Calculus BC simultaneously with AP Statistics.

How hard is AP Calculus?

If you don't do your homework or ask questions, AP Calculus is hard. A strong work ethic is required for both courses.

What is the workload in AP Calculus?

For Calculus AB, about 45 minutes per night.

For Calculus BC, about 1-1½ hours per night. Often, you will be given about 30 minutes to start homework in class. This would reduce out of class time to 30-60 minutes.