

Calculus AB/BC Pre-Study

Schedule: Sat, 3:30-5:30; 6/26 – 9/11 (10 weeks); Total: 20 hours (no class 7/3, 9/4)

Instructor: Mr. Menq Lee

Objective:

This course is designed to establish a solid foundation for Calculus AB/BC. Extending their Pre-Calc study, students will learn in adequate depth all key topics in Calculus. Students will also learn how to take full advantage of the TI-89 Graphing Calculator for solving challenging Calculus problems. Upon completion of the course, students will be able to pursue Calculus AB/BC study at school in an effective and confident manner.

Key Topics:

Limit/Continuity/Differentiability
Derivatives (instantaneous rate of change)
Rules for Derivatives (power, product, quotient, chain rules)
Implicit Differentiation
Optimizations (maximums, minimums)
Related Rates
Riemann Sums (left, right, trapezoidal, Simpson's rule)
Integrals (definite, indefinite)
Fundamental Theorem of Calculus
Techniques for Integrals (u-sub, integration-by-parts)
Slope fields & Euler Method
Differential Equations (separation of variables)

Prerequisite: Completion of Pre-Calc (w/ a grade of B or better)

Required Book:

Title: Cracking the AP Calculus AB/BC Exams, 2010 Edition (College Test Preparation)
Publisher: Princeton Review (8/4/2009)
ISBN-10: 0375429158 List Price: \$19.99 (\$13.59 @ Amazon.com)

Recommended Book:

Title: Calculus: A Complete Course (2nd Edition) (Hard Cover)
Authors: Finney, Demana, Waits, Kennedy
Publisher: Addison Wesley (11/14/1999)
ISBN-10: 0201441403 List Price: \$185.33 (\$99.94 @ Amazon.com)

Required Calculator: TI-89 Titanium Graphing Calculator (ASIN: B0001EMLZ2; List Price: \$199.99 [\$149.99 @ Amazon.com])