



West Virginia AP Summer Institute
University High School, Morgantown, WV June 26–29, 2018
AP Calculus BC AP Teachers
Instructor: Ted Gott

This course examines concepts, topics, instructional strategies, and assessments related to the teaching and learning of AP Calculus. The content described in the College Board 2016 – 2017 Curriculum Framework will be examined at great length. The topics include differential calculus and its applications (maxima/minima, related rates, and optimization), along with integral calculus and its applications (area, volume, definite integrals and Riemann Sums) and series as applied to the concept of approximation. In addition, the AP Exams will be analyzed, and strategies for preparing students for the AP Exam will be discussed.

Tuesday, June 26

(6.75 contact hours)

- Welcome
- Goals for the workshop
- Resources for the week
- Discussion – AP Calculus Philosophy and Changes
- Discussion – Equity and Access
- The Exam
- Technology
- Building an AP Program: Student Selection & Preparation
- Conceptual Development of main concepts
- Local Linearity and Linearization

Wednesday, June 27

(8 contact hours)

- Computing Derivatives
- Applications of Derivatives
- Implicit Differentiation and Related Rates
- Extrema (Local and Global)
- Optimization
- Mean Value Theorem
- Integration
- Riemann Sums

Thursday, June 28

(8 contact hours)

- The Fundamental Theorem of Calculus
- Applications of Integration
- Area and Volume
- The integral as an accumulator
- Calculus Online: Support & Resources for AP Instructors
- Techniques of Integration
- Transcendental Functions
- Particle Motion

Friday, June 29

(7.25 contact hours)

- Differential Equations and Slope Fields
- The Fundamental Theorem of Calculus with a twist
- Power Series
- Other AP topics (upon request)
- Preparing students for the AP Exam
- Scoring the AP Exam
- Institute Evaluation

Total Hours: 30.5 contact hours

Syllabus will be adjusted for the needs of the group. Please bring a graphing calculator and your current textbook.

Contact Information

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Graduate Credit:

Those seeking graduate credit must complete an additional 15 hours. To complete the additional hours, participants must create a syllabus and complete problems as assigned. More information will be provided on the first day of the institute and developed with participants requesting graduate credit.