

2022 Advanced Placement® Calculus AB

About the AP® Calculus AB Summer Institute

This Institute will focus on the Calculus curriculum outlined by The College Board. It will include studying the five major components: limits, rates of change, indefinite integrals, accumulation using definite integrals, and series. Because this is an AB Calculus session, the majority of the time will be spent on limits, derivatives, and integrals. We will discuss the new framework for AP Calculus as outlined by the College Board.

We will investigate the concepts using numerical, graphical, symbolic, and verbal perspectives. Concepts and lessons that promote student understanding of major ideas will be emphasized. Each participant will receive classroom-tested worksheets, programs, and activities. Special attention will be given to assessing written student responses in light of current AP scoring standards. The TI-83/84 graphing calculator will be used for instruction. Each participant should bring their text and graphing calculator.

Participants who are new to the AP Calculus Program should contact their school administration as soon as possible to ensure that they have been registered on the AP Calculus Course ledger. They will need to complete the AP Course Audit form to access AP Classroom and other resources.

Go to <https://apcentral.collegeboard.org/courses/ap-calculus-ab>

Day 1: Monday

- The new Course and Exam Description
- Introduction to Fall Registration
- Limits
- The 20 Minute Ride
- The Derivative
- Derivative Rules

Day 2: Tuesday

- Chain Rule
- Card Match
- Applications of derivatives
- Related Rates
- L'Hospital's Rule
- Fundamental Theorem of Calculus
- Riemann Sums to Integrals and back
- Applications of Integrals

Day 3: Wednesday

- Mathematical Practices for AP Calculus
- College Board resources
- Equity and Access
- What do students need to do?
- Templates for good solutions

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- Models
- Rate in/Rate out problems Making models

Day 4: Thursday

- Designing your curriculum
- Preparing for the AP Exam
- Looking at the latest AP Exam
- Helps for next year
- Becoming a member of the AP Calculus Community
- Other odds and ends

What to bring:

Items you should bring during the week include:

- a laptop computer or tablet
- TI-83/84 graphing calculator
- pens, markers, and highlighters
- a literary anthology for reference
- a copy of your school's academic calendar
- a notebook or notepad to jot down ideas

Instructor:



Larry Peterson earned his B.S. in Mathematics Education from Utah State University and his M. Ed. from Weber State University. He has taught AP Calculus since 1976. Larry's experience with Advanced Placement ranges from Calculus to Computer Science to Statistics. He has been a reader for the AP Calculus exam since 1993, serving as a Table Leader for six years. In 2003 and 2004, Larry was also a Question Leader. He is also a regular presenter at state, regional, national, and international conventions in mathematics and technology and has published materials for AP Calculus and AP Statistics.

Larry currently serves on the Instructional Design Team for AP Calculus. In addition to his work as a consultant for The College Board and The National Math and Science Initiative, Larry served a six-year term as a member of the Board of Directors of the National Board for Professional Teaching Standards. His awards include Milken Educator, Tandy Scholar, Disney American Teacher Award winner, and Utah Teacher of the Year.

If you have any questions or concerns before the APSI, please email the presenter; Larry Peterson, at larrypeterson@lgcy.com