Central Bucks East

CBSD Secondary Math Curriculum

Curriculum Fair

Central Bucks School District
Math Department

Secondary Mathematics Sequence

	5	6	7	8	Credit 1	Credit 2	Credit 3	Credit 4
Academic	Academic Math 5	Academic Math 6	Academic Math 7	Academic Math 8	Academic Algebra 1A	Academic Algebra 1B	Academic Geometry	Academic Algebra 2
					Accelerated Algebra 1	Accelerated Geometry	Accelerated Algebra 2	Algebra 3/Trig Precalculus/Trig
Accelerated			Accelerated Math 7	Accelerated Algebra 1	Accelerated Geometry	Accelerated Algebra 2	Algebra 3/Trig Precalculus/Trig	Stat and Data Calculus 1
					Honors Geometry	Honors Algebra 2	Honors Precalculus/Trig	AP Calculus AB AP CS AP Statistics
Honors/ Advanced	Advanced Math 5	Advanced Math 6	Advanced Algebra 1	Advanced Geometry	Honors Algebra 2	Honors Precalculus	AP Calculus AB AP CS AP Statistics	AP Calculus BC AP CS AP Statistics

*This chart does not represent all the options. Please talk with your math teacher if you are interested in pursuing an alternative.

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Math Department

CURRENT 8th GRADE PATHWAYS

CURRENT 8th GRADE	Credit 1	Credit 2	Credit 3	Credit 4
Prealgebra	Pre-Req (60%-89%) Academic Algebra 1A	Academic Algebra 1B	Academic Geometry	Academic Algebra 2 Applied Math
	Pre-Req (90% or above) Accelerated Algebra 1	Accelerated Geometry	Accelerated Algebra 2	Algebra 3/Trig Precalculus/Trig
Algebra 1A	Pre-Req (60% - 69%) Academic Algebra 1B	Academic Geometry	Academic Algebra 2	Applied Math
	Pre-Req (70% or above) Accelerated Algebra 1	Accelerated Geometry	Accelerated Algebra 2	Algebra 3/Trig Precalculus/Trig
Algebra 1 Or Algebra 1B	Pre-Req (70-89%) Accelerated Geometry	Accelerated Algebra 2	Algebra 3/Trig Precalculus/Trig	Stat and Data Calculus 1
	Pre-Req (90% or above) Honors Geometry	Honors Algebra 2	Honors Precalculus/Trig	AP Calculus AB AP CS AP Statistics
Geo/Trig	Pre-Req (80% or above) Honors Algebra 2	Honors Precalculus	AP Calculus AB AP CS AP Statistics	AP Calculus BC AP CS AP Statistics

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CURRENT 9th GRADE PATHWAYS

CURRENT 9th GRADE	Credit 2	Credit 3	Credit 4
Algebra 1A	Pre-Req (60% or above) Academic Algebra 1B	Academic Geometry	Academic Algebra 2 Applied Math
Algebra 1B or Algebra 1	Pre-Req (60%-69%) Academic Geometry	Academic Algebra 2	Applied Math
	Pre-Req (70% or above) Accelerated Geometry	Accelerated Algebra 2	Algebra 3/Trig Precalculus/Trig
Geometry/Trig	Pre-Req (70%-89%) Accelerated Algebra 2	Algebra 3/Trig Precalculus/Trig	Stat and Data Calculus 1
	Pre-Req (90% or above) Honors Algebra 2	Honors Precalculus	AP Calculus AB AP CS AP Statistics
Honors Algebra 2	Pre-Req (80% or above) Honors Precalculus	AP Calculus AB AP CS AP Statistics	AP Calculus BC AP CS AP Statistics

Honors vs AP Level

Honors Level Mathematics Courses:	AP Level Mathematics Courses:
• More challenging than standard courses • Require students to take a greater responsibility for their learning • Require students to move at a faster pace than the equivalent standard level course • Different from the equivalent standard level courses in both the quality of the work expected and the quantity of the work required inside and outside of the classroom • Expand on the goals and objectives that are also taught in our standard version of the same courses • Created for students who have demonstrated an advanced level of both interest and achievement in prior mathematics classes • Offer challenging and higher-level courses for students who aspire to an advanced level of learning and will likely participate in our AP program • Awarded .25 weight in recognition of the fact that they are more demanding and have requirements that go beyond those of the standard mathematics courses	• Encompass all of the points listed in the Honors level statements • Cover the breadth of information, skills and assignments found in corresponding college courses • Align with the standards and expectations of leading institutions • Provide motivated and academically prepared students with the opportunity to study and learn at the college level • Open and available to all students who have met the prerequisites of the course and are motivated to complete the work required to be successful in a college course while still in high school • Follows a curriculum that is approved by the College-Board • Engage students in challenging problem solving and critical thinking activities on a regular basis • Prepare students to take the AP exam for the course given annually in May • Awarded 1.0 weight in recognition of the fact that they are more demanding and have requirements that go beyond those of the standard mathematics courses

Elective Offerings

Students need two 9-week electives to count as 1 math credit

9 week Electives:

- SAT Prep
  - Not eligible for math credit
  - Prerequisite: Geometry & Algebra 2 or Geometry/Trig & Algebra 2/Trig
- Code and Create
- Intro to Python
- Intro to Java

AP Electives:

- AP Cybersecurity
  - Prerequisite: Advanced Geo C- or Geo/Trig B-
- AP Computer Science Principles
  - Prerequisite: Algebra 2/Trig B-
- AP Computer Science A
  - Prerequisite: Intro to Java or AP Computer Science Principles
- AP Statistics
  - Prerequisite: Honors PreCalculus/Trig B- or PreCalculus/Trig B

Computer Science Offerings

Elective Courses

The Central Bucks Mathematics Department is proud to offer three elective courses in computer science. Each course is worth half a credit and is designed to introduce students to the fundamentals of coding. These electives serve as a foundation for those interested in pursuing more advanced studies in computer science, helping students build essential skills in logic, problem-solving, and computational thinking.

Level 1 CS Course	Reasons to Take It	Skills You'll Gain
Code and Create *Prerequisite: None* *Difficulty Level:* ★ 9 weeks, 0.5 credit	· No computer science experience needed but all levels welcome · Block based coding experience	· Focus on Algorithms and animations. · Create visual based outcomes from coding, including movie and interactive style animations
Intro to Python Programming Learn the fundamentals of Python, one of the most widely used programming languages in the world. *Prerequisite: None* *Difficulty Level:* ★★ 9 weeks, 0.5 credit	·Python's simple syntax helps build confidence before moving into more complex languages. ·Widely used in cutting-edge fields like machine learning, AI, and data analysis.	·Learn key programming concepts (loops, conditionals, functions). ·Preparation for AP Computer Science Principles or AP Cybersecurity.
Intro to Java Programming Learn the fundamentals of Java, one of the most widely used programming languages in the world. *Prerequisite: None* *Difficulty Level:* ★★ 9 weeks, 0.5 credit	·Java is used for Android apps, enterprise software, and large-scale systems. ·Strong choice if you like structure, precision, and solving complex problems.	·Learn key programming concepts (loops, conditionals, methods). ·Object-oriented programming (classes, objects, inheritance).

Computer Science Offerings

AP Courses

The Central Bucks Mathematics Department is proud to offer three elective courses in computer science. Each course is worth half a credit and is designed to introduce students to the fundamentals of coding. These electives serve as a foundation for those interested in pursuing more advanced studies in computer science, helping students build essential skills in logic, problem-solving, and computational thinking.

AP-Level CS Course	Reasons to Take It	Skills You'll Gain
AP Computer Science Principles Explore big ideas in computing: coding, data, cybersecurity, and how tech shapes the world *Prerequisite: Alg 2/Trig (B- or better)* *Difficulty Level:* ★★★ 18 weeks, 1 credit	·Learn how technology impacts society and the future of innovation. ·Hands-on projects that let you be creative and collaborative.	·Coding experience, problem-solving, teamwork, and creativity. ·Digital literacy and understanding of the internet, data, and cybersecurity basics.
AP Cybersecurity Learn to protect systems and data, analyze threats, and think like a digital detective. *Prerequisite: Advanced Geo (C- or better); Geo/Trig (B- or better)* *Difficulty Level:* ★★★ 18 weeks, 1 credit	·Cybersecurity is one of the fastest-growing job fields worldwide. ·Explore real-world issues like hacking, digital forensics, and online safety.	·Hands-on security techniques such as encryption, authentication, and threat analysis. ·Understanding of digital ethics, online privacy, and system protection.
AP Computer Science A Dive deep into Java programming and build real programs (apps, games, tools). *Prerequisite: Intro to Java/AP Computer Science Principles* *Difficulty Level:* ★★★★ 18 weeks, 1 credit	·Preparation for higher-level computer science courses in college. ·Learn industry-standard Java programming used in apps, games, and enterprise systems.	·Strong foundation in Java programming and software development. ·Ability to design, build, and optimize complex programs.

Notable Changes

Summary	Change	Rationale
Pre-Algebra has been renamed	6th – Pre-Algebra → Advanced Math 6 7th – Pre-Algebra → Academic Math 7 8th – Pre-Algebra → Academic Math 8	As part of the curriculum cycle, Pre-Algebra 6, Pre-Algebra 7, and Pre-Algebra 8 were reviewed. The team decided to rename the courses to align with the grade-level standards. Pre-Algebra content is covered in these courses.
Algebra 2/Trig has been renamed. Geometry/Trig has been renamed.	Algebra 2/Trig → Accelerated Algebra 2 Algebra 2 → Academic Algebra 2 Geometry/Trig (MS) → Advanced Geometry Geometry/Trig (HS) → Accelerated Geometry Geometry → Academic Geometry	These courses have been renamed to make program planning easier for parents, students, and school counselors. Trigonometry is primarily taught in Geometry and Pre-Calculus.
Algebra 1A is now called Academic Algebra 1A Algebra 1B is now called Academic Algebra 1B Algebra 1 is now called Advanced Algebra 1 in 7th grade. Algebra 1 is now called Accelerated Algebra 1 in 8th grade.	Algebra 1A → Academic Algebra 1A Algebra 1B → Academic Algebra 1B Algebra 1 → Advanced Algebra 1 (7th Grade) Algebra 1 → Accelerated Algebra 1 (8th Grade/9th grade))	These courses have been renamed (and were be rewritten in the 24-25 school year). Students need to learn Algebra 1 + grade level standards in seventh and eighth grade.
Accelerated Math 7 is a new course.	Algebra 1A, Algebra 1B → Accelerated Math 7, Accelerated Algebra 1	Previously some students took Algebra 1A in 7th grade and Algebra 1B in 8th grade. Other students moved from Pre-Algebra in 7th grade (90% or higher) to Algebra 1 in 8th grade. Realignment moving 6th grade to middle school allowed this new option. Students will have more flexibility and still reach Algebra 1 by 8th grade.