

Mission

Our mission is to empower intellectually curious students to understand and improve the world.

About

Head of School: Ryan Heitz

College Counselor: Liz Crowder

Founded in September 2015, Ideaventions Academy for Mathematics and Science is a college-preparatory school for gifted to profoundly gifted students with a special interest in one or more of the STEM disciplines. We believe that a rigorous high-school education can coexist with a balanced and healthy life, and adolescence is a time to explore and learn about oneself. Ideaventions' students engage in significant endeavors that reach beyond the classroom.

Sixty-four percent of our faculty hold advanced degrees (14 faculty: 9 advanced degrees, including 3 PhDs). By immersing students in engaging courses with expert faculty, we challenge students to develop their analytical thinking, creativity and communications skills. Independence, leadership, and a persistent drive for understanding and improving the world are fostered by the school's nurturing and empowering environment. We currently serve 73 students. Nineteen are in grades 9th-12th. The class of 2025 is our fifth graduating class. 100% of our graduates go on to a four-year college.

In 2023, we were awarded the Cognia School of Distinction Award, one of 25 schools honored out of 1100 worldwide reviews in 2022-23.

Accreditation

We are fully accredited through the Middle States Association, an approved accrediting association of the Virginia Council for Private Education, as authorized by the Virginia State Board of Education, and Cognia/SACS CASI, an educational accreditor recognized by the U.S. Department of Education and the Council for Higher Education Accreditation. We are STEM Certified through Cognia.

Graduation Requirements

Students must complete an equivalent of 23 full-year courses, or 23 credits, comprised of the following:

- English 4 credits
- Mathematics 4 credits
- Science 4 credits
- History/Social Studies* 3 credits
- Computer Science or Engineering 1 credit
- Advanced STEM (AP-level or higher) 1 credit
- Economics & Personal Finance 1 credit
- World Language 2 credits
- Physical Education 2 credits
- Elective 1 credit

Due to the accelerated nature of the coursework, 9th-grade students are limited to five core, academic classes. Successful completion of Algebra 1 is required prior to 9th grade.

* One must be U.S. History or U.S. Government

Global Seal of Biliteracy

Students are eligible to earn a Global Seal of Biliteracy™ or a School Seal of Biliteracy.

The School Seal of Biliteracy is earned by completing either:

- ACTFL Proficiency rating of Int-Mid (I-2) or higher
- World Language AP examination with a score of 3 or higher; or

The Global Seal of Biliteracy™ may be earned at the Functional Fluency or Working Fluency:

- ACTFL Proficiency rating of Int-Mid (I-4) or higher; or
- World Language AP exam with a score of 5 (Working Fluency)

School Calendar

The school operates two 18-week semesters with two nine-week reporting periods. The day is divided into four 1-hour, 25-minute periods.

Class Ranking and Grading

Ideaventions Academy does not rank students. GPAs are calculated on a 4.0 scale for credit-bearing courses, excluding Physical Education.

Score	Quality Points	Letter Grade
93 - 100	4.0	A
90-92	3.7	A-
87-89	3.3	B+
83-86	3.0	B
80-82	2.7	B-
77-79	2.3	C+
73-76	2.0	C
70-72	1.7	C-
67-69	1.3	D+
64-66	1	D
Under 64	0	F

- Honors courses are weighted with an additional 0.5 quality points if the grade for the course is an A - C.
- College-level (INT and Post-AP) courses earn an add'l 1.0 weight.
- AP Courses receive an additional 0.5 weight if the grade for the course is an A - C. Students who take and earn a 3, 4, or 5 on the AP exam receive an additional 0.5 quality point.
- Year-long elective courses may receive credit towards graduation and be graded. Half-year electives earn no credit and are P/F.
- A select number of courses may be taken during a compressed summer period offered by our school. Students also have the option of taking courses through the Virginia Board of Education's Virtual Virginia program. Courses taken during the summer are recorded in the transcript in the following school year.
- Dual Enrollment (DE): Students may earn dual-enrollment credit toward high school graduation by successfully completing coursework at an accredited college or university.

Test Scores

Exam Type	Exam	Ideaventions Mean	Global
SAT*	Composite	1529	1028
ACT*	Composite	33.4	22
Advanced Placement	AP Chemistry	4.20	3.31
	AP Biology	4.92	3.11
	AP Physics C: Mechanics	4.67	3.41
	AP Physics C: E&M	4.56	3.44
	AP Physics 1	4.36	2.55
	AP Physics 2	5.00	3.14
	AP Calculus BC	3.85	3.92
	AP Statistics	4.67	2.96
	AP Computer Science A	4.23	3.18
	AP European History	4.00	3.23
	AP World History	4.60	2.96
	AP US History	3.33	2.57
	AP US Government	3.67	2.58
	AP Macroeconomics	4.75	2.72
AP Microeconomics	4.60	3.24	
AP Spanish Literature	5.00	2.91	
AP Spanish Language	4.60	3.54	

*Scores for the classes of 2021 - 2025

IDEAVENTIONS ACADEMY

FOR MATHEMATICS AND SCIENCE

Core Curriculum Courses

Science, History, Social Studies, Computer Science, and Engineering courses are offered in alternating years.

- **Honors English:** English Literature, English Non-Fiction, English 11, English 12
- **Mathematics:**
 - High School Level (Honors/College Prep): Geometry, Algebra 2+, Precalculus & Trigonometry, Number Theory & Probability
 - College Level: AP BC Calculus, AP Statistics, Introduction to Proofs
 - Post-AP: Multivariable Calculus, Differential Equations, Numerical Methods, Linear Algebra
- **Science:**
 - Chemistry: Honors, AP
 - Biology: Honors, AP
 - Physics: AP 1, AP 2, AP C: Mechanics, AP C: Elect. & Magnetism
 - Post-AP: Cellular Neuroscience & Brains/Behavior***, Geology***
- **History:**
 - United States History: Honors, Writing Intensive, AP
 - World History: Honors, Writing Intensive, AP World - Modern
 - European: Honors, Writing Intensive, AP
- **Social Studies & Economics:**
 - Government: AP United States Government
 - Economics: Economics & Personal Finance, Personal Finance, AP Macro & History of Economics, AP Micro & Behavioral Economics
- **Computer Science & Engineering:**
 - Computer Science: AP CS Principles*, AP CS A
 - Engineering Design: Mechanical, Civil, & Electrical
 - Engineering Design: Electrical & Environmental
 - Post-AP: AI & Parallel Computing Research Lab
 - Post-AP: Machine Learning & Data Science**
- **World Language:**
 - Spanish: Honors 1, 2, 3, 4***, AP Language***, AP Literature***
- **Physical Education**

Elective Courses

Credit awarded is .5 credit unless otherwise noted. Courses with no credit are Pass/Fail.

- **Creative Writing:** Writing for Screen, Fantasy Writing, Writing Through Literature
- **History & Social Studies:** Community: Local, National, Global, Examining Evolution and the Galapagos, Game Theory (no credit), History of Classical Games, History and Cinema Studies (1 credit), Forgotten History of the 20s-40s
- **Science:** Examining Evolution and the Galapagos
- **Engineering:** Mech Engineering: Combat Robotics, Engineering Design: UAVs & GIS, Programming in MATLAB
- **Management Science:** Organizational Behavior & Leadership (no credit), Vision & Innovation
- **Visual & Performing Arts:** Digital Studio, Media & Design, Theater Lab, Improv Theater & Screen Acting, Performance Studio, Monologue & Scene Workshop

Student Achievement (Graduating Class Size)

- **Class of 2025 (3):** 2 National Merit Semifinalists, 2 AP Scholars with Distinction, 1 AP Scholar
- **Class of 2024 (8):** 3 National Merit Finalists, 2 National Merit Commended Scholars, 7 AP Scholars with Distinction, 1 AP Scholar, 1 National Hispanic Recognition Scholar, 1 HSF Scholar, 1 Dominion Power Equity Scholar
- **Class of 2023 (4):** 1 National Merit Finalist, 1 National Merit Semifinalist, 1 National Merit Commended Scholar, 3 AP Scholars with Distinction, 1 AP Scholar w/Honors, 1 National Hispanic Recognition Scholar
- **Class of 2022 (2):** 1 National Merit Finalist, 2 AP Scholars with Distinction, 1 Presidential Scholar Candidate

2024 - 2025 Profile

12340 Pinecrest Rd., Reston, Virginia, 20191

703-860-0211 | www.ideaventionsacademy.org

CEEB School Number: 470033

College-Level Coursework

College-level, writing-intensive, Advanced Placement (AP), and Post-AP courses are open to students based on teacher recommendation.

College-Level courses:

- **History:** Writing-intensive courses where students write multiple history research papers (INT): World, United States, European History
- **Math:** Introduction to Proofs

Advanced Placement (AP) courses:

- **Science:** AP Biology, AP Chemistry, AP Physics 1, AP Physics 2, AP Physics C: Mechanics and Electricity & Magnetism
- **Math:** AP Statistics, AP Calculus BC
- **Computer Science:** AP CS Principles*, AP CS A
- **History:** AP World - Modern, AP US, AP European History
- **Social Studies & Economics:** AP United States Government and Politics, AP Macroeconomics, AP Microeconomics
- **World Languages:** AP Spanish Language and Culture***, AP Spanish Literature***

Post-AP courses (AP or college-level course is a prerequisite):

- **Math:** Multivariable Calculus, Differential Equations, Numerical Methods, Linear Algebra
- **Science:** Cellular Neuroscience & Brains/Behavior, Geology***
- **Computer Science:** Machine Learning & Data Science: Autonomous Cognitive Assistant**, Artificial Intelligence (AI) & Computer Vision Research Lab

185 AP exams have been administered between 2018 and 2024 with an average pass rate of 96% for all years.

*Honors options offered starting with the 2020-2021 school year.

* AP CS Principles no longer offered after 2021-2022.

**Second year college-level course that leverages the MIT BWSI Cog*Works course curriculum and taught with permission from MIT.

*** Not offered in the 2024 - 2025 school year.

Extracurricular Activities and Clubs

- **Clubs:** Sports Club, Naturalist, Business Lab: School Store, SysAdmin, Inventors, School Magazine, Rocketry, Social Committee, Animal Lovers, Theater
- **Sports (ISSAC League):** Basketball, Cross Country, Golf, Volleyball
- **Honor Societies:** Spanish Honor Society, Math Honor Society, National Honor Society
- **Competition Teams:** America Rocketry Challenge, Advanced Vertical Robotics, Model United Nations

2021 - 2024 College Acceptances & Matriculation

- Amherst College
- Boston University
- Carnegie Mellon University+
- Case Western Reserve University
- Champlain College+
- Clemson University
- College of William & Mary*+
- Colorado School of Mines
- Cornell University
- Eckerd College+
- George Mason University*
- George Washington University
- Georgia Institute of Technology
- Haverford College+
- James Madison University
- Johns Hopkins University
- Mercyhurst University
- Mount Holyoke College
- North Carolina State University
- Northeastern University
- Olin College of Engineering+
- Princeton University+
- Purdue University+
- Rensselaer Polytechnic Institute
- Rochester Institute of Technology+
- Rose-Hulman Institute of Technology
- Stevens Institute of Technology
- University of California - San Diego
- University of Colorado-Boulder
- University of Illinois at Urbana-Champaign
- University of Maryland-College Park
- University of Pennsylvania
- University of Pittsburgh
- University of Tampa
- University of Virginia+
- Virginia Commonwealth University
- Virginia Polytechnic Institute
- Worcester Polytechnic Institute

* Scholar or 1693 + Matriculated