

Profile for College Admissions 2022-2023

The School

Proof School is a full-curriculum, independent day school for young people in grades 6–12 with an active curiosity and passion for mathematics. The school started in 2015, and was founded on the premise that kids who love math would thrive in a tight-knit community where they are surrounded by people who share that love.

Our small community is a core feature of the school. Whole-school meetings start each day, classes are highly collaborative, and students are extraordinarily well known by faculty and peers alike. Students work, eat, and play together, with our oldest students often looking out for our youngest students.

Academics

We emphasize analytical thinking, communication, and collaboration across the curriculum. Students devote their mornings to the humanities, arts, and sciences. Each afternoon, students explore problem solving and proof writing in a range of mathematical subjects. All classes stress depth and investigation over speed and acceleration.

Need-Blind Admissions

Proof School is need-blind and fully meets demonstrated financial need, with financial assistance covering up to 99% of tuition.

Faculty

Proof School's faculty members fuel the operation of the school, from teaching and curricular design to school leadership and operations. The vast majority of our staff are classroom teachers, including the three members of the school leadership team. Our teachers bring an unusual blend of advanced academic expertise; relevant and varied teaching experience; and the ability to engage bright, eager students. Faculty searches each year are at the national level. Collectively, faculty hold 13 doctoral degrees, 12 master's degrees, and 1 JD.

Students

Our students relish the opportunity to spend two hours on math in school every day. They are persistent with challenges, find the world delightful, and are demonstrably eager to engage across the curriculum, from art and laboratory sciences to history and literature. They are especially curious and kind, and they genuinely enjoy collaborating with others.

Our student body is multicultural and collectively speaks 20 different languages. Most students commute 1–3 hours per day, round trip, to attend school. To date, 20 students have moved to the Bay Area to attend Proof School. They are well versed in going great distances to seek out opportunities.

Head of School
Sam Vandervelde

Director of School Programs & Admissions
Kathy Lin

Dean of Humanities
Zachary Sifuentes

[118]
students

[6-12]
grades

[17]
seniors

[22]
teachers

[26]
adv. degrees

[12]
avg. class size

Our mission is to offer a transformative liberal arts education to young people with an active curiosity and a passion for mathematics, equipping them to reason, communicate, and positively impact their world.

Our Mission in Practice

We believe that in order for students to become resilient, resourceful, and responsible individuals, they must be given the chance to wrestle with meaningful problems, guided towards effective collaboration, allowed to structure their own plans for completing long-term projects, and mentored in the art of communicating complicated ideas. Our pedagogy across the curriculum engages each of these essential goals and opportunities.

The school emphasizes collaborative learning and communication skills at every grade level and across all disciplines. Students work together to solve problems in math; discuss ethics and write increasingly sophisticated papers in literature; and design, carry out, and present on experiments in laboratory sciences.

We expect students to engage enthusiastically with a full range of core subjects and electives, with admission to the school dependent on such a disposition. During their time at Proof School, students build considerable stamina for diving deeply into areas of study; they struggle with difficult questions and solve hard problems, develop the habit of improving their work, and take increasing ownership over all that they do. Both inside and outside the classroom, we emphasize that students be kind and proactively contribute to their community.

School Schedule

The school year consists of five academic “blocks,” with a week of experiential learning between each block. Students take one math course per block that meets each afternoon for two hours, allowing them to progress through several courses each year. They also take four year-long morning courses in the humanities, arts, and sciences, which meet twice weekly for 80 minutes per session. Devoting each day to three long class periods provides time for lab work, in-depth writing, seminar discussions, collaborative work, and one-on-one interactions with teachers. The school schedule also allows for substantial discovery learning in and out of the classroom.

Extracurriculars

As a small school with students typically commuting 1–3 hours each day, we do not offer a traditional slate of after-school activities. Instead, we build extracurriculars into the school day; Wednesday mornings and every seventh week of school are devoted to ungraded mini-courses, dives into extended projects, schoolwide “bursts” in math or art, and a rotation of recreational clubs. We help students learn to seek out and create their own opportunities, and design and carry out independent projects that are personally meaningful to them. In this way, students learn how to develop their interests, take initiative, and work collaboratively with the school to bring their ideas to fruition.

Evaluation Criteria

We evaluate students on achievement (academic accomplishment) and disposition (effort, engagement, and citizenship).

Rank & GPA

Proof School does not rank students and does not calculate weighted GPAs.

Evaluation Scale

The school evaluates students on a scale of 1–5.

- 5** Fully meeting Proof School’s high expectations
- 4** Meeting Proof School’s essential expectations
- 3** Progressing towards expectations
- 2** Barely progressing to expectations
- 1** Failing to meet expectations

Students take a range of core courses that provide a robust liberal arts foundation, with the freedom to take additional coursework in areas of interest, and to define, develop, and pursue their interests.

Mathematics

The school's mathematics curriculum emphasizes problem-solving, proof writing, and communication. Students develop a foundation across all major fields of mathematics, including not only a calculus sequence that is common to secondary schools but also an extensive curriculum in discrete math, college-level algebra, advanced geometry, analysis, and number theory.

Students progress through an enormous amount of mathematics thoughtfully and thoroughly; it is not uncommon at the upper levels for a student to grapple with a couple of difficult problems for an entire afternoon. Students work closely with one another and come to understand, through experience, the value of collaboration and communication. In many math classes, students prepare and deliver formal presentations of their work or write extended proofs. We emphasize articulating one's reasoning in a clear, concise manner at every level.

Our mathematics program is supplemented by talks, an annual school-wide AI tournament, a student-run problem of the week, participation in a variety of regional and national math competitions, and two weeks of open-ended student research and presentations. Each year, students share their love of math through two student-led math festivals that are open to the public.

Humanities, Arts, and Sciences: Core Curriculum

Proof School offers a liberal arts education, with courses calibrated at the advanced and college levels starting in the 9th grade. The core requirement ensures students take a broad range of courses throughout high school. Our classes emphasize deep engagement rather than broad surveys, with deliberate instruction on critical thinking and problem solving, communication and collaboration, and research. Throughout their years, students read data, primary texts, and scholarship, with creative projects prompting research and inquiry. All 9th graders typically take the same courses, which comprise a part of the core requirement.

Humanities, Arts, and Sciences: Electives

Electives across the curriculum are developed each year based on faculty expertise, student interest, and school need. Most electives are offered once every two or three years, are calibrated at the college level, and build on core course content or methodologies. Thematic classes in the humanities allow students to take multiple courses in the same subject area, while in the sciences students can take elective classes with more specialized content. We actively advise students on weighing and making choices, with students taking the lead on mapping out a multi-year plan to meet the school's graduation requirements. Students begin making elective choices by 10th grade, when mixed grade-level classes become the norm.

Proof School does not offer AP classes, nor do we develop courses to fit standardized exams. Most classes are designed as college-level seminars focused on specific topics, projects, or themes. Still, we recognize AP exams can play a role in college admissions; we proctor a limited number of AP exams each year, and students generally choose to take a moderate number of them. As such, we no longer report aggregated scores.

[750]	[786]	[1536]
Verbal	Math	Total

**SAT Averages for Proof School Graduates,
Classes of 2019–2022**

Faculty develop new classes each year, based on their area of expertise, student interest, and school need. Introductory courses are taught each year, with advanced electives and specific course themes offered on a rotating basis.

Mathematics Course Offerings, 2022-2023

Problem Solving & Discrete Math

Combinatorics 1, 2
Graph Theory 1
Discrete Probability

Probabilistic Method*
Infinitary Combinatorics*

Algebra

Algebra 2A, 2B
Coordinates & Curves
Vectors & Matrices

Finite Fields*
Explorations in Linear Algebra*
Ring Theory*

Geometry & Topology

Euclidean Geometry 2, 3
Convex Geometry*

Linear Topology*
Theory of Polytopes*

Analysis

Exponents/Logs/Trig A, B
Introduction to Calculus A, B
Differential Calculus
Integral Calculus

Series & Topics in Calculus
Multivariable Calculus A*, B*
Differential Equations*
Measure Theory*

Number Theory

Number Theory 2, 3*
Number Systems

Algebraic Number Theory*

Additional Courses

Statistics A, B
Introduction to Model Theory*

Information Theory*

* Designates a college-level math course

9th Grade “Core” Courses for the Class of 2023

Advanced Literature

World History: Modernization

Biology

Latin 1

10th–12th Grade Course Offerings, 2022-2023

History

US History: Capitalism

Literature

Literature: The Essay
Literary Arts: Creative Writing

Lit Research: African American Lit

Lab-Based Sciences

Physics
Chemistry

Neuroscience
Lasers & Spectroscopy

Language

Latin 2, 3, 4

Arts

Studio Art: Design & Making
Studio Art: Design & Making 2

Music Theory & Composition

Computer Science

Computer Science 2, 3
Computer Graphics Studio

Programming Languages
Machine Learning

Mentored Projects

Project Studio

College Matriculation, Classes of 2019–2022

Caltech, Carleton, Columbia (3), Cornell (3), CSU Humboldt, Harvard (3), Harvey Mudd (4), Haverford, MIT (3), NYU, Northeastern, Purdue, Reed, Rose Hulman, SF State, Stanford (4), UPenn, UC Berkeley (3), UC Davis, UCLA (2), UC Santa Barbara (2), UC Santa Cruz, UChicago, UIUC, Union College, USF, UToronto, UWaterloo (3), UPenn, UT Austin, Whitman, Williams, and Yale.

