

Canada/USA Mathcamp (www.mathcamp.org), established in 1993, is a residential summer program for talented high-school students who want to study advanced mathematics.



Nuts and Bolts

Setting: We run one 5-week session per year, rotating annually between several campuses. *In 2021, Mathcamp ran in an online format, maintaining an intense academic curriculum and a vibrant social environment during the COVID era.*

Participants: 110–120 students, ages 13–19, eligible through the summer before college.

Geographic draw: Worldwide; about 78% U.S., 5% Canada, 17% international students.

Gender balance: Approximately 45% girls, 5% non-binary, 50% boys.

New/Returning: We reserve 65–75 places each year for new students and 45–55 places for returning alumni.

Many students return year after year and call Mathcamp their home. Between 2010 and 2019, 53% of our students came for 2+ years, and 15% came for 3+ years.

Admissions and Financial Aid

The **admissions process** centers around a rigorous entrance exam: an open-resource, untimed, two-month project that often asks students to learn new material. Some of the applicants are self-taught; others are already taking university courses. Regardless of their resources at home, we endeavor to identify a wide range of outstanding students for whom Mathcamp will be transformative.

Statistics: We typically admit about 15% of new applicants (in 2021: 86 out of 540), with yield 85–90% (in 2021: 71 out of 86 enrolled). Returning alumni need not reapply.

Financial Aid: We fully meet the demonstrated need of every student, both new and returning. We award full scholarships and technology or travel grants. **Admission is need-blind.**

Program Activities

Math: From 9am to 5pm, the academic day is filled with classes, talks, and office hours. We offer 100+ courses each summer, covering material typically only encountered in college or grad school. Topics range from fundamental subjects (e.g. linear algebra and group theory) to active areas of research (e.g. cluster algebras and algebraic geometry), with a new set of courses each summer. Students may choose to work on mentored projects, which include directed readings, research, and applications.

Individualized Curricula: A defining feature of Mathcamp is that each student designs their own schedule (with guidance of an academic advisor). A student particularly interested in Topology might fill their schedule with classes on that topic; another might choose an assortment from different fields each week. The ever-changing course offerings can challenge students who return for many years.

Staff: A group of highly dedicated graduate students serve as "mentors" in a combined teaching/camp counseling role, alongside a handful of faculty members. These instructors are selected for their passion for mathematics and teaching, and (like the students) often return from year to year. In this immersive environment, they interact with students in many contexts: classes, office hours, meals, field trips, and informal activities.

Outside the classroom: Students live in college dorms and have free access to the campus. There is no wake-up call or lights out; students are responsible for their own schedule (and their own laundry!). Evenings and weekends are filled with opportunities for creativity and community-building: singing, board games, cooking, hiking, debates, working on math, or simply relaxing. Many activities are organized by the students themselves.

Questions? Contact Marisa Debowsky, Executive Director, at marisa@mathcamp.org.