The City’s University
San Francisco State University is a comprehensive urban university enrolling more than 6,300 graduate students in 102 different Master’s degree and credential programs. The campus is located in a vibrant and beautiful city with a rich intellectual and cultural life.

The mathematics graduate students mirror San Francisco’s diverse population, including representative proportions of men and women and some international students. San Francisco State University is strongly committed to achieving excellence through ethnic diversity; applications are encouraged from under-represented groups.

Graduate study in Mathematics at SFSU is guided by the philosophy that graduate students should be learning to follow their own mathematical interests. As many choices as possible are provided in approved courses, including courses in other disciplines such as computer science and the physical & biological sciences.

San Francisco State University is a sponsor of the Mathematical Sciences Research Institute (MSRI) at Berkeley. Every year we nominate three or four students to attend MSRI summer schools to learn about topics at the forefront of mathematical research.

MA in Mathematics
The Master of Arts in Mathematics at San Francisco State University offers students the opportunity to study advanced mathematics under the guidance of a diverse faculty with many research specialties. Many contemporary areas of research are represented, including algebraic geometry, algebraic K-theory, complex analysis, functional analysis, real analysis, quantitative biology, combinatorics, differential geometry, computational and discrete geometry, dynamical systems, ergodic theory, game theory, machine learning & big data analysis, mathematics education, number theory & analytic number theory, toric varieties, tropical geometry, wavelets & frames, statistics, biostatistics, and algebraic statistics. Classes are small, usually fewer than 20 students, and graduate students pursue their own mathematical interests through seminars and special projects with faculty members.

The expected completion time for the program is two to three years. Graduates either move on to doctoral programs, or begin a teaching career in local community colleges, or find employment opportunities in nearby Silicon Valley (home for many of the world’s leading technology companies), in San Francisco’s large financial & actuarial & insurance industries, and in a thriving biotechnology sector.

Requirements for a Degree
The basic requirement for the MA degree is 30 units of approved coursework in Mathematics. Math 735 (Algebra II) and Math 770 (Analysis II) are the two beginning courses. It may also be waived if you have taken it before. We then choose 3 courses from the 4 course options: Math 710 (Measure Theory), Math 725 (Advanced Linear Algebra), Math 850 (Algebra III), and Math 730 (Complex Analysis) or Math 711 (Functional Analysis).

Of the remaining units, at least 3 unpaired graduate units in mathematics must be included, and at most 9 units may be selected from approved unpaired undergraduate upper division courses. Math 730 (Complex Analysis) must be included among these 15 units unless the student had earned a B or higher grade in an undergraduate complex analysis course prior to admission. Independent study with individual instructors can count up to 6 units in these 30 units.

In addition to coursework, the MA degree requires a culminating experience, either a Master’s Thesis, or an expository paper plus two comprehensive exams in two of the following areas: algebra, analysis, and statistics. Math 898 Master’s Thesis, if chosen, will count 3 units toward the degree.

Admissions
Admission to the MA degree program requires an undergraduate degree but not necessarily one in mathematics. Many students with minors in mathematics have succeeded in graduate study at SFSU. Applicants should have completed three semesters of calculus, linear algebra, plus three upper division mathematics courses with a grade of B or better in modern algebra or real analysis. Applications are submitted online at https://www2.calstate.edu/apply

Graduate Teaching Associates and Scholarships
Partial support for graduate students is provided through teaching positions (Graduate Teaching Associates). For many students, teaching is an important component of their career preparation. Under the guidance of a program coordinator they prepare lectures, assign homework, write examinations, and give final grades to students. Beginning graduate teaching associates are required to enroll in Math 700, Graduate Teaching Workshop. Graduate students are eligible to apply for various scholarships offered through the Department and through the University. A small number of graduate students are partially supported by research grants of faculty members.
Tenure-line Faculty

Federico Ardila
Massachusetts Inst. Technology
Combinatorics

David Bao
Univ. of California, Berkeley
Differential Geometry

Mathias Beck
Temple University
Analytic Number Theory, Algebraic Topology

Henry Boateng
University of Michigan
Scientific Computing, Applied Mathematics

Emily Clader
University of Michigan
Algebraic Geometry

Luella Fu
Univ. of Southern California
Large-scale statistics

Arek Goetz
Univ. of Illinois at Chicago
Dynamical Systems

Joseph Gubeladze
St. Petersburg State University
Algebraic Combinatorics, K-Theory

Tao He
Michigan State University
Statistics, Quantitative Biology

Shandy Hauk
UC Irvine
Mathematics & Statistics, Education, Dynamical Systems

Serkan Hosten
Cornell University
Algebraic Statistics, Combinatorics

Eric Hsu
Univ. of California, Berkeley
Mathematics Education

Mohammad Kafai
Univ. of California, Santa Barbara
Statistics

Gerianne Krause
Illinois Institute of Technology
Discrete Mathematics

Judy Kysh
Univ. of California, Davis
Mathematics Education

Chun-Kit Lai
Chinese U. of Hong Kong
Harmonic Analysis, Fractal Geometry

Combinatorics
Differential Geometry
Analytic Number Theory, Algebraic Topology
Scientific Computing, Applied Mathematics
Algebraic Geometry
Large-scale statistics
Dynamical Systems
Algebraic Combinatorics, K-Theory
Statistics, Quantitative Biology
Mathematics & Statistics, Education, Dynamical Systems
Algebraic Statistics, Combinatorics
Mathematics Education

Courses (700 or higher are graduate level)

MATH 300 History of Mathematics
MATH 301 Exploration and Proof
MATH 310 Elementary Number Theory
MATH 324 Probability and Stats with Computing
MATH 325 Linear Algebra
MATH 335 Modern Algebra
MATH 338 Intro to SAS
MATH 350 Geometry
MATH 370 Real Analysis I
MATH 375 Field Study for Secondary Teachers
MATH 376 Ordinary Differential Equations
MATH 380 Intro to Functions of a Complex Variable
MATH 400 Numerical Analysis

MATH 420/720 Combinatorics
MATH 424 Intro to Linear Models
MATH 430 Mathematics of Optimization
MATH 435/735 Modern Algebra II
MATH 440 Probability and Statistics I
MATH 441/741 Probability and Statistics II
MATH 447 Design of Experiments
MATH 448 Statistical Learning & Data Mining
MATH 449 Categorical Data Analysis
MATH 450 Topology
MATH 451 Elementary Differential Geometry
MATH 452 Algebraic Topology
MATH 460 Mathematical Modeling
MATH 470/770 Real Analysis II
MATH 471/771 Fourier & Wavelet Analysis
MATH 475 Capstone for Secondary Teachers
MATH 477/777 Partial Differential Equations
MATH 491 Game Theory
MATH 710 Real Analysis
MATH 711 Functional Analysis
MATH 725 Advanced Linear Algebra
MATH 729 Communicating Mathematics
MATH 730 Functions of a Complex Variable
MATH 850 Algebra
MATH 852 Algebraic Topology
MATH 883 Polytopes and Varieties
MATH 884 Algebraic Geometry
MATH 887 Analysis on Manifolds
MATH 895 Frames and Wavelets