

MASTER OF ARTS IN MATHEMATICS

Admission to Program

In addition to the general requirements for admission, applicants to the master's program must have a 3.0 grade point average in the following three courses or their equivalents:

Code	Title	Units
MATH 325	Linear Algebra	3
MATH 335	Modern Algebra	3
MATH 370	Real Analysis I	3

Applicants who fail to satisfy this requirement but who are qualified in all other respects may be admitted on the condition that they bring their grades in these courses up to the 3.0 average during their first two semesters of graduate study (these three courses, however, may not be counted as electives toward the M.A. degree).

Written English Proficiency Requirement

All students in graduate programs at SF State must demonstrate Level One (entry) and Level Two (exit) writing proficiency in accordance with University, departmental and or programmatic guidelines.

Level One

- Prior to admission: Minimum score of 4.0 on the Analytical Writing Analysis (AWA) on the GRE test.
- Conditional Admission: Applicants who do not satisfy Level I prior to admission must pass SCI 614 or MATH 729 with a grade of B-minus or better not later than the second semester. (Students should note that SCI 614 can be taken only through the College of Extended Learning and may not count as units toward the degree. MATH 729 is only offered in spring semesters.)

Level Two

Satisfactory completion of the Master's Thesis (MATH 898), or take two comprehensive examinations and write an expository paper.

Upper division courses acceptable on the Advancement to Candidacy form will be determined by the student with approval of the graduate coordinator.

Mathematics (M.A.) – Minimum 30 units

Program (12 units)

Code	Title	Units
MATH 710	Analysis I	3
MATH 850	Algebra	3
Select and additional 6 units from unpaired graduate courses other than MATH 898 or MATH 899		6

Upper Division/Graduate Mathematics or Related Courses (18 units)

Of the remaining 18 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](#) must be included among these 18 units unless the student had earned a B or higher grade in an undergraduate complex analysis course. Student must complete either a thesis with oral defense or take the

comprehensive examinations and write an expository paper. [MATH 898](#) if chosen, will count 3 units toward the degree.

Culminating Experience

Candidates for the M.A. in Mathematics must complete a Culminating Experience. Two options are available.

Thesis Option

Students may choose to write a thesis and present an oral defense. Students considering the thesis option should contact the department chair or graduate advisor for further details. A master's thesis should contain new theorems or algorithms, a novel application, or an original approach to an established result. The resulting manuscript must be prepared according to university guidelines following a style similar to that used by the *Notices of the American Mathematical Society*. Each MA thesis has a principal advisor and two additional readers. The expected time to completion for this paper is one academic year. Thesis guidelines are available from the mathematics graduate coordinators.

Comprehensive Examinations/Expository Paper Option

Students selecting this option take two written examinations and write an expository paper. Students must take two examinations selected from algebra, analysis, and statistics. Written examinations are administered during the last two weeks of each semester. Examinations last two and a half hours, and a student takes no more than one examination per day. Departmental syllabi for the examinations are available at least four months in advance of each administration. Each examination requires students to integrate material from several undergraduate and graduate courses, to demonstrate their ability to write short proofs in correct mathematical English, and to demonstrate the falsity of propositions by counter-examples. Students who fail an examination may repeat it at least once, with additional attempts requiring the written approval of the graduate coordinators.

The expository paper is completed in two stages. First, students must complete a departmental proposal form, including: the title and abstract of the proposed paper, the what-why-how aspects of the research in question, a brief preliminary bibliography, and the approval of the proposal by a committee consisting of a faculty advisor and one additional reader from the Mathematics faculty. Once students have an approved proposal, they may begin work on the project under the guidance of the faculty advisor. Completion of the paper is subject to signed approval by all members of the committee.

Further information about these options can be obtained from the department website: <http://math.sfsu.edu>.