# Master of Arts in Mathematics

## Requirements (48 units)

**Program Code: MTHM**

The Master of Arts degree in Mathematics is a flexible program that allows students to tailor their studies to individual career goals. It emphasizes mathematical content courses and is appropriate not only for college teaching but also for students considering further graduate work.

Careful advising is essential to ensure that prerequisites for courses are met, and that the course work selected is appropriate for the student's career goals.

### Admission to the Program

In addition to the general requirements of the university, which include a baccalaureate degree from an accredited college, specific requirements for admission to the program are:

1. Successful completion with a grade of at least "B" (3.0) of course work in calculus, abstract algebra, analysis, geometry, number theory and probability deemed equivalent to the core of the mathematics major at California State University, San Bernardino.
2. Students who do not meet these criteria may be admitted as conditionally classified graduate students following review by the Department of Mathematics Graduate Committee;
3. Submission of a completed M.A. in Mathematics application form;
4. Completion of the graduate entrance writing requirement;
5. Three letters of recommendation;
6. A letter of not more than three pages, outlining background, experience admission to this program and career goals.

### Advising

Each graduate student should seek advising from the graduate coordinator or other departmental faculty before enrolling in their program. In consultation with their advisor, they will develop an appropriate course of study based on their preparation and interests. The specific program must be approved by the department graduate committee prior to Advancement to Candidacy.

In the latter part of the program, a student will also need a project advisor. Such an advisor should be selected two or three quarters before enrolling in MATH 696, which is required of all master's candidates.

### Advancement to Candidacy

In order to be advanced to candidacy, the student must:

1. Achieve classified status;
2. Complete at least 15 quarter units and not more than 20 units of applicable work as a graduate student at this university, with a grade point average of at least 3.0 ("B");
3. Begin assembling their portfolio by contributing at least one exemplary problem solution or one proof as described in item 6 of “Requirements for Graduation;”
4. Submit a formal program of graduate work prepared in consultation with and approved by the departmental graduate committee;
5. Gain final approval of the program and of the candidacy itself by the Dean of Graduate Studies.

### Requirements for Graduation

1. Advancement to candidacy for the degree;
2. A minimum of 48 quarter units of acceptable graduate level work as specified below in the formal program;
3. No less than 34 units completed in residence at this university;
4. Completion of a graduate project (MATH 696 and MATH 697). A project proposal must be approved by the departmental graduate committee no later than the quarter preceding enrollment in MATH 696. The written project satisfies the graduation writing requirement. Successful completion of MATH 697 also includes an oral presentation of the project to the department. Guidelines for submitting a project proposal and for the project itself are available from the department office.
5. A grade point average of at least 3.0 ("B") in the core courses as well as an overall grade point average of at least 3.0 ("B") in the program, with no course grade being less than "B-;"
6. Submit a portfolio containing the following items:
   a. A copy of the approved Advancement to Candidacy form,
   b. Three examples of exemplary solutions to problems in the student's classes,
   c. Four examples of proofs that the student has written in classes in the program, explaining the significance to the material studied,
   d. An announcement of the seminar at which the student presents the project,
   e. An abstract of the thesis,
   f. A completed student questionnaire;
7. Any additional general requirements not cited above and listed in Graduate Degree and Program Requirements (http://bulletin.csusb.edu/graduate-degree-programs/graduate-degree-program-requirements).

### Degree Requirements (48 units)

#### Core courses (16)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 604</td>
<td>Seminar in Problem Solving I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 614</td>
<td>Studies in Geometry</td>
<td>4</td>
</tr>
<tr>
<td>MATH 616</td>
<td>Studies in Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MATH 618</td>
<td>Studies in Analysis</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Electives (28)

Twenty-eight units of electives selected from the following and including at least 16 units at the 600-level:

Approved 400-level courses in mathematics not in the core of the major
Approved 500- or 600-level courses in mathematics not used to satisfy any other requirement

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 696</td>
<td>Masters Degree Project I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 697</td>
<td>Masters Degree Project II</td>
<td>1</td>
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</tbody>
</table>

**Total Units** 48