BACHELOR OF ARTS IN MATHEMATICS:
CONCENTRATION IN MATHEMATICS FOR ADVANCED STUDY – MATH ASSOCIATE DEGREE FOR TRANSFER (ADT) ROADMAP

This is a sample pathway for students who transfer to San Francisco State University in the current Bulletin year with an AS-T in Mathematics. At least 12 units in the major (MATH 226, MATH 227, MATH 228) and all lower-division GE requirements have been satisfied. Additional units in the major may have been satisfied. Check with a major advisor about the most appropriate course sequence. Degree completion guaranteed in 60 units; see the Associate Degree for Transfer (ADT) section for more information (http://bulletin.sfsu.edu/undergraduate-admissions/transfer-students/).

To Do at SF State:
Enough total units to reach 120 minimum for graduation; 30 units minimum at the upper-division level; to include the following:

University-Wide Requirements: 9-15 Units
- Upper-Division GE (9 units): Courses required for the major may double-count if approved for UD GE.
- Students entering this major with the AS-T in Mathematics are not required to fulfill SF State Studies requirements.
- Complementary Studies: Consult with a department advisor on how transfer units and/or SF State units can be applied to ensure degree completion within 60 units.

Mathematics for Advanced Study Major: 33-36 Units
MATH 226-MATH 227-MATH 228 met in transfer; CSC 210 may have been met in transfer.
- Core (15 units)
- Concentration (18-21 units)

University Electives: 9 or More Units
Depends on course choices made at the community college, how transferred units are applied to the requirements above, and course choices at SF State. Some courses may meet more than one requirement, e.g., UD GE and the major.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select One (Major Core):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 309</td>
<td>Mathematical Computing</td>
<td>3</td>
</tr>
<tr>
<td>CSC 210</td>
<td>Introduction to Computer Programming</td>
<td></td>
</tr>
<tr>
<td>CSC 215</td>
<td>Intermediate Computer Programming</td>
<td></td>
</tr>
<tr>
<td>CSC 309</td>
<td>Computer Programming</td>
<td></td>
</tr>
<tr>
<td>MATH 301GW</td>
<td>Exploration and Proof - GWAR (Major Core)</td>
<td>3</td>
</tr>
<tr>
<td>MATH 325</td>
<td>Linear Algebra (Major Core)</td>
<td>4</td>
</tr>
<tr>
<td>GE Area UD-B: Upper-Division Physical and/or Life Sciences</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>University Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Units</strong></td>
<td></td>
<td><strong>16</strong></td>
</tr>
<tr>
<td>Second Semester</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 335</td>
<td>Modern Algebra (Major Core)</td>
<td>3</td>
</tr>
<tr>
<td>MATH 440</td>
<td>Probability and Statistics I (Major Concentration)</td>
<td>3</td>
</tr>
</tbody>
</table>
Major Concentration Elective (6 units) - Take One

- US History (http://bulletin.sfsu.edu/undergraduate-education/american-institutions/#USHaGR) 3
- or University Elective if US History met before transfer 3

University Elective 3

### Third Semester

- Select One (Major Concentration): 2
  - MATH 310 **Elementary Number Theory**
  - MATH 376 **Ordinary Differential Equations I**
  - MATH 370 **Real Analysis I (Major Core)**
  - MATH 435 **Modern Algebra II (Major Concentration)**
  - GE Area UD-C: Upper-Division Arts and/or Humanities 3
  - U.S. and California Government (http://bulletin.sfsu.edu/undergraduate-education/american-institutions/#usg) 3
- or University Elective if US/CA Government met before transfer 3

### Units

15

### Fourth Semester

- MATH 380 **Introduction to Complex Analysis (Major Concentration)**
- Select One (Major Concentration): 3
  - MATH 450 **Topology**
  - MATH 470 **Real Analysis II: Several Variables**
  - MATH 471 **Fourier Analysis and Applications**
- Major Concentration Elective (6 units) - Take One 1
- GE Area UD-D: Upper-Division Social Sciences 3
- University Elective 3

### Units

15

### Total Units

61

---

1. Major Concentration Elective Course numbered 400 or above (except MATH 475, MATH 565, MATH 576, and MATH 577).
2. MATH 310, MATH 376, and MATH 435 offered fall semesters only.
3. MATH 380, MATH 470, and MATH 471 offered spring semesters only.