BACHELOR OF SCIENCE IN APPLIED MATHEMATICS – 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

- American Institutions (0-6 units): US History, US Government, California State and Local Government requirements if not taken before transfer.
- Upper-Division GE (9 units): Courses required for the major may double-count if approved for UD GE.
- Students entering the major with the AS-T in Mathematics are not required to fulfill SF State Studies or Complementary Studies requirements.

Applied Mathematics Major: 39-42 Units

MATH 226, MATH 227, and MATH 228 met in transfer.

- Required Courses (24-27 units)
- Major Electives (15 units), including three courses emphasizing applications of mathematics, chosen on advisement.

University Electives: 1 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.

Course	Title	Units
First Semester		
Select One (Major Core):		3
MATH 209	Mathematical Computing	
CSC 309	Computer Programming	
CSC 101	Introduction to Computing	
MATH 325	Linear Algebra (Major Core)	4
MATH 440	Probability and Statistics I (Major Core)	3
Major Elective (6 Units Total) - Take One [1]		3
GE Area UD-B: Upper-Division Physical and/or Life Sciences		3
	Units	**16**
Second Semester		
MATH 301GW	Exploration and Proof - GWAR (Major Core)	3
MATH 400	Numerical Analysis (Major Core) [2]	3
MATH 440	Probability and Statistics I (Major Core)	3
Select One:		4
CSC 215	Intermediate Computer Programming (if CSC 101 taken)	
Unviersity Elective (if MATH 209 or CSC 309 taken)		
Major Elective (6 Units Total) - Take One [1]		3
	Units	**16**

Third Semester		
Select One (Major Core):		3
MATH 335	Modern Algebra	
MATH 370	Real Analysis I	
MATH 380	Introduction to Complex Analysis	
MATH 376	Ordinary Differential Equations I (Major Core) [3]	3
Select One (UD-C, USH, USG/CSLG):		3
HIST 470	The U.S. Constitution to 1896	
HIST 471	The U.S. Constitution Since 1896	
University Elective		1
	Units	**10**
Fourth Semester		
MATH 460	Mathematical Modeling (Major Core)	3
Major Application Elective (9 Units Total) - Take Three [4]		9
GE Area UD-D: Upper-Division Social Sciences		3
	Units	**15**
Fifth Semester		
MATH 696	Applied Mathematics Project I (Major Core)	1
	Units	**1**
Sixth Semester		
MATH 697	Applied Mathematics Project II (Major Core)	2
	Units	**2**
	Total Units	**60**

1 **Major Electives (6 units)**
Select six units of the following:
MATH 430 Mathematics of Optimization (3 units)
MATH 442 Probability Models (3 units)
MATH 447 Design and Analysis of Experiments (3 units)
MATH 448 Introduction to Statistical Learning and Data Mining (3 units)
MATH 449 Categorical Data Analysis (3 units)
MATH 471 Fourier Analysis and Applications (3 units)
MATH 477 Partial Differential Equations (3 units)
MATH 491 Game Theory (3 units)
MATH 495 Introduction to Wavelets and Frames with Applications (3 units)

2 MATH 400 offered spring semesters only.

3 MATH 376 offered fall semesters only.

4 **Major Application Electives (9 units)**
A coherent collection of three courses emphasizing applications of mathematics, chosen with the consent of the applied mathematics advisor.