BACHELOR OF ARTS IN MATHEMATICS: CONCENTRATION IN MATHEMATICS FOR ADVANCED STUDY ROADMAP

120 Total Units Required
Minimum Number of Units in the Major: 49

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

Course	Title	Units
First Semester		
ENG 114	Writing the First Year: Finding Your Voice (A2) [1]	3
MATH 226	Calculus I (Major Core, B4) [2]	4
GE Area A [3]		3
GE Area C		3
GE Area D		3
	Units	**16**
Second Semester		
MATH 227	Calculus II (Major Core)	4
GE Area A		3
GE Area D		3
GE Area E		3
Complementary Studies or SF State Studies or University Elective [4]		3
	Units	**16**
Third Semester		
Select One (Major Core):		3
MATH 209	Mathematical Computing	
CSC 101	Introduction to Computing	
CSC 309	Computer Programming	
MATH 228	Calculus III (Major Core)	4
GE Area B: Physical Science (B1) and Laboratory Science (B3) [5]		3-4
GE Area C		3
	Units	**13-14**
Fourth Semester		
MATH 301GW	Exploration and Proof - GWAR (Major Core)	3
MATH 440	Probability and Statistics I (Major Concentration)	3
Select One:		4
CSC 215	Intermediate Computer Programming (if CSC 101 taken)	
Complementary Studies or SF State Studies or University Elective (if MATH 209 or CSC 309 taken) [4]		
GE Area B: Life Science (B2) and Laboratory Science (B3) [5]		3-4
GE Area C		3
	Units	**16-17**
Fifth Semester		
MATH 325	Linear Algebra (Major Core)	4
MATH 380	Introduction to Complex Analysis (Major Concentration)	3
GE Area F [±]		3
GE Area UD-B: Upper-Division Physical and/or Life Sciences		3
U.S. and California Government (http://bulletin.sfsu.edu/undergraduate-education/american-institutions/#usg)		3
	Units	**16**
Sixth Semester		
Select One (Major Concentration):		3
MATH 310	Elementary Number Theory	
MATH 376	Ordinary Differential Equations I	
MATH 335	Modern Algebra (Major Concentration)	3
Major Elective (6 Units Total) - Take One [6]		3
GE Area UD-C: Upper-Division Arts and/or Humanities		3
Complementary Studies or SF State Studies or University Elective [4]		3
	Units	**15**
Seventh Semester		
MATH 370	Real Analysis I (Major Core)	3
MATH 435	Modern Algebra II (Major Concentration)	3
Major Elective (6 Units Total) - Take One [6]		3
GE Area UD-D: Upper-Division Social Sciences		3
Complementary Studies or SF State Studies or University Elective [4]		3
	Units	**15**
Eighth Semester		
Select One (Major Concentration):		3
MATH 450	Topology	
MATH 470	Real Analysis II: Several Variables	

MATH 471	Fourier Analysis and Applications	
Complementary Studies or SF State Studies or University Elective - Take Four [4]		10
Units		**13**
Total Units		**120-122**

[1] ENG 114 can only be taken if you complete Directed Self-Placement (DSP) and select ENG 114; if you select ENG 104/ENG 105 through DSP you will satisfy A2 upon successful completion of ENG 105 in the second semester; multilingual students may be advised into alternative English courses.

[2] To determine the best B4 course option, students should complete the online advising activity at mathadvising.sfsu.edu (https://mathadvising.sfsu.edu/). Questions? Contact Gator Smart Start. (https://gatorsmartstart.sfsu.edu/)

[3] To avoid taking additional units, it is recommended that you meet the **SF State Studies** (AERM, GP, ES, SJ) requirements within your GE or major.

[4] **Complementary Studies**

Students in the B.A. Math program will satisfy the Complementary Studies requirement by taking 12 units of courses in the College of Science and Engineering outside of Math.

[5] Consider taking a class combined with a laboratory or a separate lab to fulfill B3 if not already satisfied.

[6] **Major Electives**

Two elective MATH courses numbered 400 or above except MATH 475, MATH 565, MATH 575, MATH 576, and MATH 577.

± Given catalog rights, fall 2023 transfer students do not need to complete an Area F course.