BACHELOR OF SCIENCE IN APPLIED MATHEMATICS ROADMAP – QUANTITATIVE REASONING CATEGORY III/IV

120 Total Units Required
Minimum Number of Units in the Major: 55

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 your Degree Planner (https://registrar.sfsu.edu/degreeplanner/) and an advisor for further guidance.

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.

Course	Title	Units
First Semester		
MATH 197	Prelude to Calculus I (Prerequisite for MATH 226) [1]	3
GE Area 1: English Communication		3
GE Area 3: Arts and Humanities		3
GE Area 4: Social and Behavioral Sciences [2]		3
SF State Studies or University Elective		3
	Units	**15**
Second Semester		
MATH 198	Prelude to Calculus II (Prerequisite for MATH 226, GE 2) [1]	3
GE Area 1A: English Composition [3]		3
GE Area 1: English Communication		3
GE Area 4: Social and Behavioral Sciences [2]		3
SF State Studies or University Elective		3
	Units	**15**
Third Semester		
MATH 226	Calculus I (Major Core, GE 2) [1]	4
GE Area 3: Arts and Humanities		3
GE Area 5: Physical and Biological Sciences [4]		3-4
GE Area 6: Ethnic Studies (https://bulletin.sfsu.edu/undergraduate-education/general-education/areasix/)		3
SF State Studies or University Elective		3
	Units	**16-17**
Fourth Semester		
Select One (Major Core):		3
MATH 209	Mathematical Computing	
CSC 101	Introduction to Computing	
CSC 309	Computer Programming	
MATH 227	Calculus II (Major Core)	4
MATH 301GW	Exploration and Proof - GWAR (Major Core)	3
MATH 325	Linear Algebra (Major Core)	4
	Units	**14**
Fifth Semester		
Select One:		4
CSC 215	Intermediate Computer Programming (if CSC 101 taken)	
SF State Studies or University Elective (if MATH 209 or CSC 309 taken)		
MATH 228	Calculus III (Major Core)	4
Major Application Elective (9 Units Total) [5]		3
GE Area 5UD or 2UD: Upper-Division Sciences or Upper-Division Mathematical Concepts		3
	Units	**14**
Sixth 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
MATH 400	Numerical Analysis (Major Core)	3
MATH 440	Probability and Statistics I (Major Core)	3
Major Elective (6 Units Total) [6]		3
	Units	**15**
Seventh Semester		
MATH 696	Applied Mathematics Project I (Major Core) [7]	1
Major Application Elective (9 Units Total) [5]		3
Major Elective (6 Units Total) [6]		3
GE Area 3UD: Upper-Division Arts or Humanities		3
GE Area 4UD: Upper-Division Social and Behavioral Sciences		3
U.S. and California Government (https://bulletin.sfsu.edu/undergraduate-education/american-institutions/#usg)		3
	Units	**16**
Eighth Semester		
MATH 460	Mathematical Modeling (Major Core)	3
MATH 697	Applied Mathematics Project II (Major Core) [7]	2

Major Application Elective (9 Units Total) [5]	3
SF State Studies or University Elective - Take Two	7
Units	**15**
Total Units	**120-121**

[1] Students should use their Pathway/Category (https://gatorsmartstart.sfsu.edu/pathways/) to determine the appropriate GE 2 course option. For directions on how to view your Pathway/Category, visit how to find your pathway (https://gatorsmartstart.sfsu.edu/howtofindyourpathways/). Questions? Contact Gator Smart Start. (https://gatorsmartstart.sfsu.edu/)

[2] First-time freshmen must take one lower-division Area 4 course that meets US History (USH).

[3] Students should use their Pathway/Category (https://gatorsmartstart.sfsu.edu/pathways/) to determine the appropriate GE 1A course option. For directions on how to view your Pathway/Category, visit how to find your pathway (https://gatorsmartstart.sfsu.edu/howtofindyourpathways/). Questions? Contact Gator Smart Start. (https://gatorsmartstart.sfsu.edu/)

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

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

[6] **Major Electives (6 units)**
A full list of courses that can fulfill this requirement can be found in the Degree Requirements. (https://bulletin.sfsu.edu/colleges/science-engineering/mathematics/bs-applied-mathematics/#degreerequirementstext)

[7] MATH 696/MATH 697 serve as the capstone experience for the major.