STATISTICS BS + STATISTICAL DATA SCIENCE MS SF STATE SCHOLARS ROADMAP

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. The San Francisco State Scholars program provides undergraduate students with an accelerated pathway to a graduate degree. Students in this program pursue a bachelor's and master's degree simultaneously. This program allows students to earn graduate credit while in their junior and/or senior year, reducing the number of semesters required for completion of a master's degree.

Course	Title	Units
First Year		
Fall Semester		
MATH 226	Calculus I (Major Core, GE 2) [1]	4
GE Area 1: English Communication		3
GE Area 3: Arts and Humanities		3
GE Area 4: Social and Behavioral Sciences [5]		3
GE Area 5: Physical and Biological Sciences [3]		3-4
	Units	16-17
Spring Semester		
MATH 227	Calculus II (Major Core)	4
Select One (Major Core):		3
MATH 209	Mathematical Computing	
CSC 101	Introduction to Computing	
CSC 309	Computer Programming	
GE Area 1A: English Composition [4]		3
GE Area 1: English Communication		3
GE Area 3: Arts and Humanities		3
	Units	16
Second Year		
Fall Semester		
MATH 228	Calculus III (Major Core)	4
MATH 301GW	Exploration and Proof - GWAR (Major Core)	3
MATH 325	Linear Algebra (Major Core)	4
MATH 440	Probability and Statistics I (Major Core)	3
	Units	14
Spring Semester		
MATH 441	Probability and Statistics II (Major Core)	3
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)		
GE Area 4: Social and Behavioral Sciences [2]		3
GE Area 5: Physical and Biological Sciences [3]		3-4
GE Area 6: Ethnic Studies (https://bulletin.sfsu.edu/undergraduate-education/general-education/areasix/)		3
	Units	16-17
Third Year		
Fall Semester		
MATH 424	Introduction to Linear Models (Major Core)	3
MATH 442	Probability Models (Major Core)	3
MATH 447	Design and Analysis of Experiments (Major Core)	3
SF State Studies or University Elective - Take Two		7
	Units	16
Spring Semester		
MATH 338	Introduction to SAS (Major Core)	3
MATH 448	Introduction to Statistical Learning and Data Mining (Major Core and Graduate Core)	3
MATH 449	Categorical Data Analysis (Major Core)	3
Guided Electives (9 Units Total) [5,6]		3
GE Area 3UD: Upper-Division Arts or Humanities		3
	Units	15
Fourth Year		
Fall Semester		
Guided Electives (9 Units Total) [5,6]		3
GE Area 5UD or 2UD: Upper-Division Sciences or Upper-Division Mathematical Concepts		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
SF State Studies or University Elective		3
	Units	15

Spring Semester

Guided Electives (9 Units Total) [5,6]		3
SF State Studies or University Elective - Take Three		9
	Units	**12**

Fifth Year

Fall Semester

MATH 742	Advanced Probability Models (Graduate Core)	3
MATH 760	Multivariate Statistical Methods (Graduate Core)	3
MATH 761	Computational Statistics (Graduate Core)	3
	Units	**9**

Spring Semester

MATH 748	Theory and Applications of Statistical and Machine Learning (Graduate Core)	3
Select One (Culminating Experience):		3
MATH 892	Data Science Internship	
MATH 895	Research Project	
MATH 898	Master's Thesis	
Graduate Elective [7]		3
	Units	**9**
	Total Units	**138-140**

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

[4] 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/)

[5] **Guided Electives** (9 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-statistics/#degreerequirementstext).

[6] Graduate-Level Elective Courses [7] can double count for this requirement.

[7] **Graduate Electives** (12 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/ms-statistical-data/#degreerequirementstext).