

BACHELOR OF SCIENCE IN STATISTICS 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 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 C		3
GE Area D		3
GE Area E		3
		Units 16
Third Semester		
MATH 228	Calculus III (Major Core)	4
MATH 301GW	Exploration and Proof - GVAR (Major Core)	3
MATH 325	Linear Algebra (Major Core)	4
MATH 440	Probability and Statistics I (Major Core)	3
Select One (Major Core):		3
MATH 209	Mathematical Computing	
CSC 101	Introduction to Computing	
CSC 309	Computer Programming	
		Units 17
Fourth Semester		
MATH 338	Introduction to SAS (Major Core)	3
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 B: Physical Science (B1) and Laboratory Science (B3) ⁴		3-4
		Units 13-14
Fifth 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
GE Area B: Life Science (B2) and Laboratory Science (B3) ⁴		3-4
GE Area C		3
		Units 15-16
Sixth Semester		
MATH 448	Introduction to Statistical Learning and Data Mining (Major Core)	3
MATH 449	Categorical Data Analysis (Major Core)	3
Guided Electives (9 Units Total) - Take One ⁵		3
GE Area F [±]		3
GE Area UD-C: Upper-Division Arts and/or Humanities		3
		Units 15
Seventh Semester		
Guided Electives (9 Units Total) - Take One ⁵		3
GE Area UD-B: Upper-Division Physical and/or Life Sciences		3
GE Area UD-D: Upper-Division Social Sciences		3
U.S. and California Government (http://bulletin.sfsu.edu/undergraduate-education/american-institutions/#usg)		3
SF State Studies or University Elective		4
		Units 16
Eighth Semester		
Guided Electives (9 Units Total) - Take One ⁵		3
SF State Studies or University Elective - Take Three		9
		Units 12
Total Units		120-122

¹ ENG 114 can only be taken if you complete Directed Self-Placement (DSP) and select ENG 114; if you choose 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 Consider taking a class combined with a laboratory or a separate lab to fulfill B3 if not already satisfied.

⁵ **Guided Electives (9 units)**

Select three courses from one of the areas (Science, Economics, Business: Decision Sciences, or Business: Information Systems) listed below:

Science

MATH 370 Real Analysis I (3 units)

MATH 376 Ordinary Differential Equations I (3 units)

MATH 400 Numerical Analysis (3 units)

MATH 425 Applied and Computational Linear Algebra (3 units)

MATH 430 Mathematics of Optimization (3 units)

MATH 460 Mathematical Modeling (3 units)

Economics

ECON 301 Intermediate Microeconomic Theory (3 units)

ECON 302 Intermediate Macroeconomic Theory (3 units)

ECON 312 Introduction to Econometrics (3 units)

ECON 715 Mathematical Economics (3 units)

ECON 731 Econometric Methods and Applications (3 units)

ECON 825 Applied Time Series Econometrics (3 units)

Business: Decision Sciences

DS 311 Technologies in Data Analytics (3 units)

DS 408 Computer Simulation (3 units)

DS 412 Operations Management (3 units)

DS 604 Applied Business Forecasting (3 units)

DS 624 Quality Management (3 units)

Business: Information Systems

ISYS 363 Information Systems for Management (3 units)

ISYS 463 Information Systems Analysis and Design (3 units)

ISYS 569 Information Systems for Business Process Management (3 units)

ISYS 650 Business Intelligence (3 units)

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