

# BACHELOR OF ARTS IN MATHEMATICS: CONCENTRATION IN TEACHING - QUANTITATIVE REASONING CATEGORY I/II AND ENG 114

120 Total Units Required

Minimum Number of Units in the Major: 45

Course	Title	Units
<b>First Semester</b>		
ENG 114	Writing the First Year. Finding Your Voice (A2) <sup>1</sup>	3
MATH 226	Calculus I (Major Core, B4) <sup>2</sup>	4
GE Area A <sup>3</sup>		3
GE Area C		3
GE Area D		3
Units		16
<b>Second Semester</b>		
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
<b>Third Semester</b>		
CSC 210 or CSC 309	Introduction to Computer Programming (Major Concentration) or Computer Programming for Scientists and Engineers	3
MATH 228	Calculus III (Major Core)	4
GE Area B: Physical Science (B1) and Laboratory Science (B3) <sup>4</sup>		3-4
GE Area D		3
Complementary Studies or SF State Studies or University Elective <sup>5</sup>		3
Units		16-17
<b>Fourth Semester</b>		
MATH 301GW	Exploration and Proof - GVAR	3

MATH 324	Probability and Statistics with Computing (Major Concentration)	3
GE Area B: Life Science (B2) and Laboratory Science (B3) <sup>4</sup>		3-4
GE Area C		3
Complementary Studies or SF State Studies or University Elective <sup>5</sup>		3
Units		15-16
<b>Fifth Semester</b>		
MATH 300GW	History of Mathematics - GVAR	3
MATH 310	Elementary Number Theory (Major Concentration)	3
MATH 325	Linear Algebra (Major Core)	3
GE Area UD-B: Upper-Division Physical and/or Life Sciences (Consider SF State Studies Course)		3
Complementary Studies or SF State Studies or University Elective <sup>5</sup>		3
Units		15
<b>Sixth Semester</b>		
MATH 335	Modern Algebra (Major Core)	3
MATH 350	Geometry (Major Concentration)	3
GE Area UD-C: Upper-Division Arts and/or Humanities (Consider SF State Studies Course)		3
Complementary Studies or SF State Studies or University Elective - Take Two <sup>5</sup>		6
Units		15
<b>Seventh Semester</b>		
MATH 370	Real Analysis I (Major Core)	3
MATH 475	Capstone Course for Secondary Teachers of Mathematics (Major Concentration) <sup>6</sup>	3
GE Area UD-D: Upper-Division Social Sciences (Consider SF State Studies Course)		3
Complementary Studies or SF State Studies or University Elective <sup>5</sup>		3
Units		12
<b>Eighth Semester</b>		
MATH 375	Field Study for Secondary Teachers (Major Concentration)	3
Complementary Studies or SF State Studies or University Elective - Take Four <sup>5</sup>		12
Units		15
Total Units		120-122

- <sup>1</sup> 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.
- <sup>2</sup> Depending on courses completed through Early Start, students in Pathway/Category III or IV may be required to enroll in a support course to complement their Quantitative Reasoning/B4 requirement. There are multiple course options for this pathway. Before enrolling in a B4 course, students should verify their MATH Pathway/Category in their Student Center (<http://cms.sfsu.edu/content/student-center>). Information regarding the courses that correspond with your MATH Pathway/Category can be found on the Developmental Studies Office Website (<http://developmentalstudies.sfsu.edu>).
- <sup>3</sup> To avoid taking additional units, it is recommended that you meet **SF State Studies** requirements (AERM, GP, ES, SJ) within your GE or major.
- <sup>4</sup> Consider taking a class with a combined laboratory or a separate lab to fulfill B3 if not already satisfied.
- <sup>5</sup> **Complementary Studies**  
Students who pursue a Bachelor of Arts in Mathematics with Concentrations in Liberal Arts, Teaching, or Advanced Studies must complete 12 Complementary Studies units, within a coherent group of courses with a prefix other than MATH, and not cross-listed with MATH. Complementary Studies units for the Mathematics major may come from:
1. Any courses offered by other departments in the College of Science & Engineering (CoSE), or
  2. Any of the following courses outside of CoSE:
    - a. DS 312 Data Analysis with Computer Applications (3 units)
    - b. DS 408 Computer Simulation (3 units)
    - c. ECON 101 Introduction to Microeconomic Analysis (3 units) (D1)
    - d. ECON 301 Intermediate Microeconomic Theory (3 units)
    - e. ECON 302 Intermediate Macroeconomic Theory (3 units)
    - f. FIN 350 Business Finance (3 units)
    - g. ISYS 363 Information Systems for Management (3 units)
    - h. ISYS 463 Information Systems Analysis and Design (3 units)
    - i. ISYS 464 Managing Enterprise Data (3 units)
    - j. ISYS 650 Business Intelligence (3 units)
    - k. PHIL 205 Formal Logic I (3 units)
    - l. PHIL 350 Philosophy of Science (3 units) (UD-B)
    - m. PHIL 351 Philosophy of Risk (3 units) (UD-B, ES)
    - n. PHIL 694 Philosophical Logic Workshop (3 units)
    - o. PHIL 695 Advanced Logic Workshop (3 units)
- <sup>6</sup> MATH 475 serves as the capstone course for the major.