

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

120 Total Units Required  
Minimum Number of Units in the Major: 42

| 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<br>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 C   |   | 3     |
|   | Units   | 13-14 |
| <b>Fourth Semester</b>  |   |       |
| MATH 301GW  | Exploration and Proof - GWAR (Major Core)   | 3     |
| GE Area B: Life Science (B2) and Laboratory Science (B3) <sup>4</sup>     |   | 3-4   |
| GE Area D   |   | 3     |

|   |   |         |
|---|---|---------|
| Complementary Studies or SF State Studies or University Elective - Take Two <sup>5</sup>      |   | 6       |
|   | Units   | 15-16   |
| <b>Fifth Semester</b>   |   |         |
| MATH 300GW  | History of Mathematics - GWAR (Major Concentration) | 3       |
| MATH 325  | Linear Algebra (Major Core)                         | 3       |
| GE Area UD-D: Upper-Division Social Sciences (Consider SF State Studies Course)               |   | 3       |
| Complementary Studies or SF State Studies or University Elective - Take Two <sup>5</sup>      |   | 6       |
|   | Units   | 15      |
| <b>Sixth Semester</b>   |   |         |
| MATH 335  | Modern Algebra (Major Core)                         | 3       |
| Concentration Elective (12 Units Total) - Take One <sup>6</sup>                               |   | 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       |
| Concentration Elective (12 Units Total) - Take One <sup>6</sup>                               |   | 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 - Take Two <sup>5</sup>      |   | 6       |
|   | Units   | 15      |
| <b>Eighth Semester</b>  |   |         |
| Concentration Elective (12 Units Total) - Take Two <sup>6</sup>                               |   | 6       |
| Complementary Studies or SF State Studies or University Elective - Take Three <sup>5</sup>    |   | 9       |
|   | 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 combined with a 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 MATH 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:

DS 312 Data Analysis with Computer Applications (3 units)

DS 408 Computer Simulation (3 units)

ECON 101 Introduction to Microeconomic Analysis (3 units) (D1)

ECON 301 Intermediate Microeconomic Theory (3 units)

ECON 302 Intermediate Macroeconomic Theory (3 units)

FIN 350 Business Finance (3 units)

ISYS 363 Information Systems for Management (3 units)

ISYS 463 Information Systems Analysis and Design (3 units)

ISYS 464 Managing Enterprise Data (3 units)

ISYS 650 Business Intelligence (3 units)

PHIL 205 Formal Logic I (3 units)

PHIL 350 Philosophy of Science (3 units) (UD-B)

PHIL 351 Philosophy of Risk (3 units) (UD-B, ES)

PHIL 694 Philosophical Logic Workshop (3 units)

PHIL 695 Advanced Logic Workshop (3 units)

Students who have earned AA-T or AS-T degrees and are pursuing a similar B.A. degree at SF State are required to fulfill the Complementary Studies requirement as defined by the major department. Students should consult with a major advisor about how transfer units and/or SF State units can best be applied to this requirement in order to ensure degree completion within 60 units.

<sup>6</sup> **Concentration Elective (12 units)**

Four MATH courses numbered 300 or above except MATH 375, MATH 475, MATH 565, MATH 575, MATH 576, MATH 577, MATH 578.