BACHELOR OF SCIENCE IN STATISTICS – MATH ASSOCIATE DEGREE FOR TRANSFER (ADT) ROADMAP

This is a sample pathway for students who transfer to San Francisco State University in the current Bulletin year with an AS-T in Mathematics. At least 12 units in the major (MATH 226, MATH 227, and MATH 228) and all lower-division GE requirements have been satisfied. Additional units in the major may have been satisfied. Check with a major advisor about the most appropriate course sequence. Degree completion guaranteed in 60 units; see the Associate Degree for Transfer (ADT) section for more information (http://bulletin.sfsu.edu/undergraduate-admissions/transfer-students).

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>CSC 210 or CSC 309</td>
<td>Introduction to Computer Programming (Major Core) or Computer Programming for Scientists and Engineers</td>
<td>3</td>
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<tr>
<td>MATH 325</td>
<td>Linear Algebra (Major Core)</td>
<td>3</td>
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<tr>
<td>MATH 440</td>
<td>Probability and Statistics I (Major Core)</td>
<td>3</td>
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<tr>
<td>GE Area UD-B: Upper-Division Physical and/or Life Sciences</td>
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<tr>
<td>University Elective</td>
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<td>3</td>
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<tr>
<td><strong>Units</strong></td>
<td></td>
<td>15</td>
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<tr>
<td><strong>Second Semester</strong></td>
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<tr>
<td>MATH 301GW</td>
<td>Exploration and Proof - GWAR (Major Core)</td>
<td>3</td>
</tr>
<tr>
<td>MATH 441</td>
<td>Probability and Statistics II (Major Core)</td>
<td>3</td>
</tr>
<tr>
<td>MATH 448</td>
<td>Introduction to Statistical Learning and Data Mining (Major Core)</td>
<td>3</td>
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<tr>
<td>MATH 449</td>
<td>Categorical Data Analysis (Major Core)</td>
<td>3</td>
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<tr>
<td>US History</td>
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<td>3</td>
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<tr>
<td>or University Elective if US History met in transfer</td>
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To Do at SF State:

Enough total units to reach 120 minimum for graduation; 40 units minimum at the upper-division level; to include the following:

- **Third Semester**
  - MATH 338 Introduction to SAS (Major Core) 3
  - MATH 424 Introduction to Linear Models (Major Core) 3
  - MATH 442 Probability Models (Major Core) 3
  - GE Area UD-C: Upper-Division Arts and/or Humanities 3
  - U.S. and California Government 3
  - or University Elective if US/CA Government met before transfer 3

- **Fourth Semester**
  - MATH 447 Design and Analysis of Experiments (Major Core) 3
  - Major Emphasis (9 units) - Take Three 9
  - GE Area UD-D: Upper-Division Social Sciences 3

**Total Units** 60

1 Major Emphasis (9 units)
Select three courses from one emphasis in consultation with the statistics advisor.

- **Business Emphasis**
  - 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)
  - 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 569 Information Systems for Business Process Management (3 units)
  - ISYS 650 Business Intelligence (3 units)

- **Economics Emphasis**
  - 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 Theory (3 units)
  - ECON 829 Applied Time Series Econometrics (3 units)

- **Science Emphasis**
  - MATH 370 Real Analysis I (3 units)
  - MATH 376 Ordinary Differential Equations I (3 units)
  - MATH 400 Numerical Analysis (3 units)
  - MATH 430 Mathematics of Optimization (3 units)
  - MATH 460 Mathematical Modeling (3 units)
  - MATH 491 Game Theory (3 units)
  - MATH 493 Introduction to Actuarial Mathematics (3 units)
  - MATH 494 Non-Parametric Statistics (3 units)
University-Wide Requirements: 9-15 Units

- Upper-Division GE, Areas B, C, and D (9 units): Courses required for the major may double-count if approved for UD GE.
- Students entering the major with the AS-T in Mathematics are not required to fulfill SF State Studies or Complementary Studies requirements.

Statistics Major: 39-42 units
MATH 226, MATH 227 and MATH 228 met in transfer; CSC 210 may have been met in transfer.

- Core (30-33 units)
- Emphasis (9 units) in one of the following areas of emphasis: Business, Economics, or Science. Consult with a department advisor.

University Electives: 3 or More Units
Depends on the number of units transferred, course choices made at the community college, and how transferred units are applied to the requirements above.