

BACHELOR OF SCIENCE IN BIOLOGY: CONCENTRATION IN BOTANY – BIOL ASSOCIATE DEGREE FOR TRANSFER 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 Biology. Thirty-two units in the major (BIOL 230, BIOL 240, CHEM 115, CHEM 215, CHEM 216, MATH 226, and the required PHYS sequence) and 33 units of lower-division GE requirements 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/>).

| Course | Title | Units |
|--|---|-------|
| First Semester | | |
| BIOL 529GW or BIOL 534 | Plant Ecology - GVAR (Major Upper-Division) ¹ or Wetland Ecology | 4 |
| CHEM 130 or CHEM 233 | General Organic Chemistry (Major Lower-Division) or Organic Chemistry I | 3 |
| US History (http://bulletin.sfsu.edu/undergraduate-education/graduation-requirements/#USHaGR) or University Elective if US History met before transfer | | 3 |
| GE Area C | | 3 |
| University Elective | | 3 |
| | Units | 16 |
| Second Semester | | |
| BIOL 355 | Genetics (Major Upper-Division) ² | 3 |
| BIOL 458 | Biometry (Major Upper-Division) | 4 |
| BIOL 525 | Plant Physiology (Major Upper-Division) | 3 |
| GE Area D | | 3 |
| GE Area UD-C: Upper-Division Arts and/or Humanities | | 3 |
| | Units | 16 |
| Third Semester | | |
| BIOL 337 | Evolution (Major Upper-Division) | 3 |
| Select One (Major Upper-Division): | | 3-5 |
| BIOL 502 | Biology of the Algae | |
| BIOL 504 | Biology of the Fungi | |
| BIOL 514 | Plant Taxonomy | |
| BIOL 526 | Plant Molecular Physiology Laboratory (Major Upper-Division) | 2 |
| GE Area UD-D: Upper-Division Social Sciences | | 3 |
| University Elective | | 2 |
| | Units | 14 |
| Fourth Semester | | |
| BIOL 500 or BIOL 505 | Evolution and Diversity of Plants (Major Upper-Division) or Comparative Anatomy of Vascular Plants | 4 |
| Major Electives (4-7 units) - Take as many as needed ³ | | 4-7 |

| | | |
|---------------------|-------------|----|
| University Elective | | 3 |
| | Units | 14 |
| | Total Units | 60 |

- 1 Students must complete at least one GVAR course before graduation.
- 2 BIOL 355 satisfies GE Area UD–B: Upper Division Physical and/or Life Sciences.
- 3 **Electives (4-7 units)**
Choose 4-7 units upon advisement from the alternates not used in fulfilling the requirements listed above or any other upper-division Biology courses not specifically excluded for major credit, or any graduate course in Biology.

To Do at SF State:

Enough total units to reach 120 minimum for graduation; 30 units minimum at the upper-division level; to include the following:

University-Wide Requirements: 12–18 Units

- American Institutions (0-6 units): US History, US Government, CA Government.
- Lower-Division GE (6 units) – Area C (3 units in any subarea) and Area D (3 units). D2 courses satisfy US History; D3 courses satisfy US/CA Government requirements.
- Upper-Division GE (9 units): Courses may satisfy the US History or US/CA Government requirements, and UD-C or UD-D at the same time, if approved for multiple areas.
- Students entering this major with the AS-T in Biology are not required to fulfill SF State Studies or Complementary Studies requirements.

Biology – Botany Major: 37 Units

Completed: BIOL 230, BIOL 240, MATH 226, all PHYS, CHEM 115, CHEM 215, CHEM 216.

- Lower-Division Requirements (3 units): CHEM 130
- Major Upper-Division Requirements/GVAR (27 units)
- Major Upper-Division Electives (4-7 units)

University Electives: 8 or More Units

Depends on course choices made at the community college, how transferred units are applied to the requirements above, and course choices at SF State. Some courses may meet more than one requirement, e.g. in both UD GE and the major.