Bachelor of Science in Biology: Concentration in Marine Biology and Limnology – BIOL Associate Degree for Transfer Roadmap

This is a sample pathway for students who transfer to San Francisco State University in 2017–2018 with an AS-T in Biology. Thirty-two units in the major (BIOL 230/BIOL 240, CHEM 115/CHEM 215/CHEM 216, MATH 226, 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
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First Semester |
BIOL 570GW | Biology of Fishes - GWAR | 4
CHEM 130 | General Organic Chemistry | 3
GE Area A: Written English Communication II (A4)
or University Elective if A4 met in transfer | 3
GE Area C: Arts (C1) or Humanities (C2) or Humanities: Literature (C3) | 3
US History (bulletin.sfsu.edu/undergraduate-education/graduation-requirements/#USHaGR) | 3
or University Elective if US History met before transfer | 1
Units | 16

Second Semester |
BIOL 355 | Genetics | 3
BIOL 458 | Biometry | 4
GE Area D: Social Sciences (D1) or U.S. History (D2) or U.S. and California Government (D3) | 3
Upper Division GE: UD-C or UD-D | 3
University Elective | 1
Units | 14

Third Semester |
BIOL 337 | Evolution | 3
BIOL 525 | Plant Physiology | 3
or BIOL 630 | or Animal Physiology | 3
BIOL 534 | Wetland Ecology | 4
or BIOL 582 | or Biological Oceanography | 4
Upper Division GE: UD-C or UD-D | 3
University Elective | 1-2
Units | 14

Fourth Semester |
University elective or UD GE (C or D) if needed | 3
Major Upper Division Electives | 13
Units | 16
Total Units | 60

1 If ENG 214 equivalent not taken before transfer, take this course or BIOL 631GW course in a subsequent semester (note that BIOL 630 must be taken before or concurrently with BIOL 631GW). While completion in 60 units is still possible, progress to degree will be extended.
2 Some GE Area UD–C: Upper Division Arts and/or Humanities courses also satisfy US History. Check the Class Schedule.
3 BIOL 355 satisfies GE Area UD–B: Upper Division Physical and/or Life Sciences.
4 Select upper division electives in consultation with an advisor.

**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:

**University-Wide Requirements: 15–21 Units**
- ENG 214 or equivalent A4 course (0–3 units) if not taken before transfer. See note 1.
- American Institutions (0–6 units): See next bullet.
- Lower division GE (6 units) – Area C (3 units in any subarea) and Area D (3 units; D2 satisfies US History if needed; D3 satisfies US/CA Government requirement if needed)
- Upper division GE (6 units to do): 1) Major course satisfies UD-B. 2) Take UD-C and UD-D courses. See notes.
- Students entering this major with the AS-T in Biology are not required to fulfill SF State Studies or Complementary Studies requirements.

**Biology – Marine Biology and Limnology Major: 36–37 Units**
BIOL 230/BIOL 240, MATH 226, all PHYS, CHEM 115/CHEM 215/CHEM 216 met in transfer.

- Lower Division requirements (3 units): CHEM 130
- Major Upper Division Requirements (16–17 units)
- Major Upper Division Electives – includes GWAR (17 units) – upon advisement. See note 2.

**University Electives: One Unit or More**

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. both in UD GE and the major.