# Bachelor of Science in Biology: Concentration in Ecology – 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.[1](http://bulletin.sfsu.edu/undergraduate-admissions/transfer-students).

### Course Title | Units
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**First Semester**
BIOL 529GW | Plant Ecology - GWAR | 4
CHEM 130 | General Organic Chemistry | 3
GE Area A: Written English Communication II (A4) | 3
Take University Elective if requirement met in transfer | 1
GE Area C: Arts (C1) or Humanities (C2) or Humanities: Literature (C3) | 3
US History | 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
Upper Division GE: UD-C or UD-D | 3
Major Division Requirement – upon advisement (Ecology option) | 3-4
Major Upper Division Elective | 3
| Units | 16

**Fourth Semester**
Major Division Electives | 11
University Electives (or UD-C or UD-D if needed) | 3-4
| Units | 14
| Total Units | 60

1. If ENG 214 equivalent not taken before transfer, GWAR course must be taken in a subsequent semester. Timely progress to degree will be affected.
2. BIOL 355 also satisfies GE Area UD–B: Upper Division Physical and/or Life Sciences.
3. Select course 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: 12–21 Units**

- ENG 214 or equivalent A4 course (0–3 units) if not taken before transfer
- 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 – Ecology Major: 38 Units**

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

- Lower Division requirements (3 units): CHEM 130
- Major Upper Division Requirements/GWAR (21 units)
- Major Upper Division Electives (14 units) – upon advisement. See note 2.

**University Electives: Three 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.