BIOLOGY, BS

Natural Sciences, Mathematics, and Engineering (nsme) (https://catalog.csub.edu/general-information/csub-information/school-natural-sciences-mathematics-engineering/)

Department of Biology (https://catalog.csub.edu/general-information/csub-information/school-natural-sciences-mathematics-engineering/department-biology/)

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www.csub.edu/Biology (http://www.csub.edu/Biology/)

Program Maps for Natural Sciences, Mathematics, and Engineering (https://programmap.csub.edu/academics/interest-clusters/4e942a6e-b8e4-4b60-a1ae-334235acc581/)

The Department of Biology offers the Bachelor of Science in Biology with or without a concentration in Biotechnology, the Bachelor of Arts in Human Biological Sciences, and the Master of Science in Biology. Throughout its curriculum the Department emphasizes evolution and the relationship between organisms and the environment. Classes include extensive field and laboratory investigations allowing students to observe and measure biological systems. Students are encouraged to select elective courses best suited to their interests. See Biology Tracks below. A detailed description of student learning goals and objectives can be found at http://www.csub.edu/biology/.

Program Requirements

The Bachelor of Science in Biology curriculum includes a wide range of courses that allows for diverse student interests. Students seeking a Bachelor of Science degree with a major in Biology must complete the following:

Code	Title	Units
General Education Requirements		
First-Year Seminar (FYS)		2
Lower Division Area A: Foundational Skills		9
Lower Division Area B: Natural Sciences [5]		0
Lower Division Area C: Arts and Humanities		6
Lower Division Area D: Social and Behavioral Sciences		3
Lower Division Area E: Student Enrichment and Lifelong Learning (SELF) [6]		0
Lower Division Area F: Ethnic Studies		3
American Institutions: Government and History		6
Junior Year Diversity & Reflection (JYDR)		3
Graduation Writing Assessment Requirement (GWAR)		3
Upper Division Thematic Area C and D		6
General Education Capstone [6]		0
General Education Subtotal		*41*
Major Requirements		
Biology [1]		
BIOL 2010	Introductory Biology - Cells [2]	4
BIOL 2110	Introductory Biology - Animals	4
BIOL 2120	Introductory Biology - Plants	4
BIOL 3010	General Genetics	3
BIOL 3020	General Physiology	3
BIOL 3110	General Ecology	3
BIOL 3120	Research Design and Analysis	4
BIOL 4100	Evolution	3
BIOL 4918	Senior Seminar	1
At least 20 units of additional upper division elective coursework in Biology. [3]		20
Cognates [4]		
CHEM 1000	Foundations of Chemistry	3
CHEM 1001	Foundations of Chemistry Laboratory	2
CHEM 2300	Foundations of Organic Chemistry	3
MATH 1050	Precalculus I (or equivalent)	4
PHYS 2110	College Physics I	4
Major Subtotal		*65*
Additional Units Needed Towards Graduation [7]		**14**
Total Units		**120**

1. *A minimum GPA for these 49 units is 2.0*
2. A grade of C- or better is required to advance into upper division Biology courses.
3. At least three courses must be four units with lab and at least one must be a laboratory course at the 4000-level.
4. *A minimum GPA for these 16 units is 2.0*
5. A modification to the standard GE program has been approved that allows the possibility of satisfying some GE requirements through the major. BIOL 2010 Introductory Biology - Cells or BIOL 2110 Introductory Biology - Animals satisfies B2, MATH 1050 Precalculus I or higher satisfies B4, and CHEM 1000 Foundations of Chemistry satisfies B1.
6. The SELF requirement is met by completing a LD Area B, C, or D course with a SELF component. The CAPSTONE requirement is met by completing BIOL 4918 Senior Seminar
7. Biology majors are encouraged to consider taking additional upper-division biology elective courses or additional upper-division scientific cognate courses to fulfill their university-wide additional unit requirement. Depending on student career objectives, faculty advisors may be able to recommend courses that would be appropriate, and students are encouraged to speak with their faculty advisor about course options.

Note: One (1) semester unit of credit normally represents one hour of in-class work and 2-3 hours of outside study per week.