Department of Biological Sciences, CSCI

CALIFORNIA STATE UNIVERSITY EAST BAY

ASSESSMENT PLAN: Bachelor of Science (BS) and Bachelor of Arts (BA) in Biological Sciences.

Date Updated: 14 Aug 2025

PROGRAM MISSION

Institutional Learning Outcomes

PROGRAM LEARNING OUTCOMES (PLOs)

Students graduating with a BS or BA in Biological Sciences will be able to:

PLO 1	Explain core biological concepts, including evolutionary processes, structure-function relationships across all levels of biological organization, homeostasis, information flow, matter and energy transformations, and the interactions and interconnectedness of living systems.
PLO 2	Apply quantitative reasoning to explain biological phenomena and to address biological problems.
PLO 3	Clearly communicate biological information in a variety of formats (written, oral, visual) using a style appropriate for the intended audience.
PLO 4	Apply methods of scientific inquiry by formulating testable hypotheses, collecting and analyzing data, and reporting conclusions.
PLO 5	Gather, interpret, and evaluate published scientific information.

Year 1: 2025-2026

1. *Which PLO(s) to assess*	PLO 1
2. *Is it aligned to an ILO?*	Yes
3. *If yes, list ILO.*	ILO 6 - Specialized discipline
4. *Course name and number*	BIOL 320 – Evolutionary Biology
5. *SLO from course*	Define and explain organic evolution and the mechanisms underlying evolutionary change.
6. *Assessment activity*	Students will complete BIOMAP survey at the end of the semester.
7. *Assessment Instrument*	Cornell University BIOMAPS survey.
8. *How data will be reported*	Quantitative and qualitative
9. *Responsible person(s)*	BIOL320 - Ana Almeida, BIOL instructor and the Biology Assessment Committee.

10. Time (which semester(s))	Fall 2025 and Spring 2026
11. Ways of closing the loop	The Biology Assessment Committee will review the results and propose and discuss changes to the curriculum with the faculty body.

Year 2: 2026-2027

1. Which PLO(s) to assess	PLO 5
2. Is it aligned to an ILO?	Yes
3. If yes, list ILO.	ILO 2 – Communication (Information Literacy)
4. Course name and number	BIOL 320 – Evolutionary Biology
5. SLO from course	Understand the relevance of evolution to their own lives as well as any field of modern Biology.
6. Assessment activity	Information literacy signature assignment
7. Assessment Instrument	ILO Information Literacy rubric
8. How data will be reported	Qualitative and quantitative
9. Responsible person(s)	BIOL320 - Ana Almeida, BIOL instructor and the Biology Assessment Committee.
10. Time (which semester(s))	Fall 2026 and Spring 2027
11. Ways of closing the loop	The Biology Assessment Committee will review the results and propose and discuss changes to the curriculum with the faculty body.

Year 3: 2027-2028

1. Which PLO(s) to assess	PLO 4
2. Is it aligned to an ILO?	Yes
3. If yes, list ILO.	ILO 1 – Thinking and Reasoning (Critical Thinking)
4. Course name and number	BIOL 320 – Evolutionary Biology
5. SLO from course	Apply the principles of evolutionary theory to all aspects of Biology and other natural sciences.
6. Assessment activity	Signature assignment
7. Assessment Instrument	ILO Critical Thinking rubric
8. How data will be reported	Quantitative and qualitative
9. Responsible person(s)	BIOL320 - Ana Almeida, BIOL instructor and the Biology Assessment Committee.
10. Time (which semester(s))	Fall 2027 and Spring 2028
11. Ways of closing the loop	The Biology Assessment Committee will review the results and propose and discuss changes to the curriculum with the faculty body.

Year 4: 2028-2029

1. Which PLO(s) to assess	PLO 3
2. Is it aligned to an ILO?	Yes
3. If yes, list ILO.	ILO 2 – Communication (Oral Communication)
4. Course name and number	BIOL 320 – Evolutionary Biology
5. SLO from course	Identify and explain the major patterns and themes in the evolution of life on Earth.
6. Assessment activity	Signature assignment
7. Assessment Instrument	ILO Oral Communication Rubric
8. How data will be reported	Qualitative and qualitative

9. *Responsible person(s)*	BIOL320 - Ana Almeida, BIOL instructor and the Biology Assessment Committee.
10. *Time (which semester(s))*	Fall 2028 and Spring 2029
11. *Ways of closing the loop*	The Biology Assessment Committee will review the results and propose and discuss changes to the curriculum with the faculty body.

Year 5: 2029-2030

1. *Which PLO(s) to assess*	PLO 2
2. *Is it aligned to an ILO?*	Yes
3. *If yes, list ILO.*	ILO 1 – Thinking and Reasoning (Quantitative Reasoning)
4. *Course name and number*	BIOL 320 – Evolutionary Biology
5. *SLO from course*	Apply the principles of evolutionary theory to all aspects of Biology and other natural sciences.
6. *Assessment activity*	BioSQUARE survey
7. *Assessment Instrument*	Modified ILO Quantitative Reasoning rubric
8. *How data will be reported*	Quantitative and qualitative
9. *Responsible person(s)*	BIOL320 - Ana Almeida, BIOL instructor and the Biology Assessment Committee.
10. *Time (which semester(s))*	Fall 2029 and Spring 2030
11. *Ways of closing the loop*	The Biology Assessment Committee will review the results and propose and discuss changes to the curriculum with the faculty body.