

YEARLY PLANNING DISCUSSION TEMPLATE

General Questions

Program Name Biology **Academic Year** 2024-2025

1. Has your program mission or primary function changed in the last year?

Our program mission has not changed:

The Biology Program is committed to providing excellent college-level education in biology at the freshman and sophomore level in support of students seeking academic and professional degrees and certificates. The Biology Program mirrors the Allan Hancock College mission and strategic plan to provide quality educational opportunities that enhance student learning and the creative, intellectual, cultural, and economic vitality of the diverse Santa Maria community. The biology faculty members are committed to incorporating innovative instructional techniques and current technologies to enhance student achievement and instill life-long learning.

2. Were there any noteworthy changes to the program over the past year? (eg, new courses, degrees, certificates, articulation agreements)

BIOL 175 Cadaver Lab I started in Fall 2024 and BIOL 176 Cadaver Lab II is also offered in Spring 2025.

3. Is your two-year program map in place and were there any challenges maintaining the planned schedule?

The two-year program maps are in place. Christine Reed will be updating the program maps to reflect the new BIOL 150 prerequisite of CHEM 120. We are able to schedule the courses as planned, however, we are seeing more demand for our classes than spaces available.

4. Were there any staffing changes?

Two new full-time Biology faculty members, hired to fill vacancies from a retirement and a resignation, started in Fall 2024. One of the new hires has offered to serve as the full-time Biology faculty member at Lompoc Valley Center.

Our lab specialist retired at the end of Spring 2024 and a replacement was hired. The replacement did not perform her job duties effectively and did not stay in the position after six months. This happened in the middle of the Fall 2024 semester. Our lab assistant has stepped in to the position of lab specialist and has only one student worker. This lab specialist is doing very

well in the position, but he is currently applying to graduate school so we anticipate the position becoming vacant again soon. We also currently do not have anyone in the lab assistant position.

We will have a biology faculty member on sabbatical in Fall 2025 so we currently need at least two new part-time instructors to fill vacancies in BIOL 100 and BIOL 120 at the Santa Maria campus.

5. What were your program successes in your area of focus last year?

BIOL 100 concurrent enrollment helps alleviate long wait lists in BIOL 100.

Adding more BIOL 150 allows Biology major students access to the course earlier.

Adding a Friday only section of BIOL 124 helps with long wait lists and gives allied health students greater access to pre-requisite courses.

Additional sections of BIOL 125 in Lompoc have helped allied health students with pre-requisite access.

Since more lab sections have been added, a budget augmentation is necessary because of increased consumables used and the higher costs of supplies in general. Microbiology lab supplies have increased \$424.04 and that does not include tax, shipping, or the hazardous shipping fee. Adding a second section of Cellular Biology has increased costs for Bio-Rad Kits by \$1,213.83. Physiology kits are an additional \$610.37 and Anatomy dissection specimens are \$578.28 per lab each year. Other supplies and equipment, such as prepared microscope slides and microscopes, get worn out over time and need to be replaced. These costs are our best estimates with current pricing. Prices may change due to inflation.

Learning Outcomes Assessment

a. Please summarize key results from this year's assessment.

This academic year, the following program learning outcome (PLO) was assessed:
Demonstrate proficiency in using the scientific process to make hypotheses about natural phenomena, test those hypotheses, and analyze the results.

The assessment used was a lab report on genetically modified organisms (GMOs) which includes background information, hypotheses, scientific methods, experimental results, discussion with data analysis, and literature cited.

In Fall 2024, 70% of the students met the PLO. In Spring 2025, 75% of the students met the PLO.

- b. Please summarize your reflections, analysis, and interpretation of the learning outcome assessment and data.

This assessment is one of the most rigorous for our first semester Biology major students. It may be their first time writing a lab report in this format and following specific guidelines on what information is included in each section of the report. After obtaining the PLO data from Fall 2024, the lab report grading rubric was updated. This more detailed grading rubric likely contributed to the increase in students meeting the outcome in Spring 2025.

- c. Please summarize recommendations and/or accolades that were made within the program/department.

Biology faculty actively review and update course materials to promote student success. The plan for Fall 2025 is to have students bring a copy of their lab report to class before the due date and have their lab partner complete a peer review of the report using the updated grading rubric.

- d. Please review and attach any changes to planning documentation, including PLO rubrics, associations, and cycles planning.

The following new PLOs for Biology have been approved through AP&P:

1. Demonstrate knowledge of evolutionary principles and biodiversity.
2. Demonstrate knowledge of genetics, including the central dogma and heredity.
3. Demonstrate proficiency in using the scientific process to make hypotheses about natural phenomena, test those hypotheses, and analyze the results.
4. Demonstrate knowledge of homeostasis in regards to biological systems and functions.
5. Demonstrate knowledge of cell theory, including diverse cell types and functions.

See attached PLO Planning Document.

Distance Education (DE) Modality Course Design Peer Review Update (Please attach documentation extracted from the *Rubric for Assessing Regular and Substantive Interaction in Distance Education Courses*)

- a. Which courses were reviewed for regular and substantive interactions (RSI)?

BIOL 120 Humans and the Environment – See attached DE Rubric

- b. What were some key findings regarding RSI?

- Some strengths:

Canvas page is organized and instructor has regular office hours in addition to being available via email outside of office hours. Assignments and expectations for success are clearly outlined in the syllabus.

Weekly discussions relevant to course content encourage student engagement. Students respond to the initial question and then to at least one peer response. Interactive assignments require participation that will prevent enrollment fraud.

- Some areas of possible improvement:

None at this time.

- c. What is the plan for improvement?

CTE two-year review of labor market data and pre-requisite review

N/A

- Does the program meet documented labor market demand?
- How does the program address needs that are not met by similar programs?
- Does the employment, completion, and success data of students indicate program effectiveness and vitality? Please, explain.
- Has the program met the Title 5 requirements to review course prerequisites, and advisories within the prescribed cycle of every 2 year for CTE programs and every 5 years for all others
- Have recommendations from the previous report been addressed?

Use the tables below to fill in **NEW** resources and planning initiatives that **do not apply directly to core topics**. *This section is only used if there are new planning initiatives and resources requested.*

New Program Planning Initiative (Objective) – Yearly Planning Only	
Title (including number):	BIOL Obj 1 – Hire New Part-Time Faculty (SM Campus)
Planning years:	2025-2026
<p align="center">Description:</p> <p>Biology faculty, along with the dean and department chair, will hire new part-time faculty to fill current vacancies. Due to a biology faculty member on sabbatical leave, we need instructors for BIOL 100 and BIOL 120 in Santa Maria for Fall 2025.</p>	
<p>What college plans are associated with this Objective? (Please select from the list below):</p> <p> <input checked="" type="checkbox"/> <u>Ed Master Plan</u> <input checked="" type="checkbox"/> <u>Student Equity Plan</u> <input checked="" type="checkbox"/> <u>Guided Pathways</u> <input type="checkbox"/> AB 705/1705 <input type="checkbox"/> Technology Plan <input type="checkbox"/> Facilities Plan <input type="checkbox"/> Strong Workforce <input type="checkbox"/> Equal Employment Opp. <input type="checkbox"/> Title V </p>	

New Program Planning Initiative (Objective) – Yearly Planning Only	
Title (including number):	BIOL Obj 2 – Budget Augmentation for Supplies and Equipment
Planning years:	2025-2026
<p align="center">Description:</p> <p>Costs for laboratory supplies has been increasing. A budget augmentation is needed to purchase our consumables and replace older supplies and equipment, such as slides and microscopes, that show wear or break over time. When lab sections are added to the schedule, the budget must increase to accommodate the extra cost.</p>	
<p>What college plans are associated with this Objective? (Please select from the list below):</p> <p> <input checked="" type="checkbox"/> <u>Ed Master Plan</u> <input checked="" type="checkbox"/> <u>Student Equity Plan</u> <input checked="" type="checkbox"/> <u>Guided Pathways</u> <input type="checkbox"/> AB 705/1705 <input type="checkbox"/> Technology Plan <input type="checkbox"/> Facilities Plan <input type="checkbox"/> Strong Workforce <input type="checkbox"/> Equal Employment Opp. <input type="checkbox"/> Title V </p>	

Resource Requests: Please see attached Resource Request Excel template.

Area of Focus Discussion Template

ENROLLMENT TRENDS AND EFFICIENCY

Enrollment Trends and Efficiency – look for areas of growth or decline, relationship to the college and similar programs, and head count (enrollment and full-time equivalents for students and full-time equivalents faculty). Sample activities include the following:

Possible topics:

- Review FTES, headcount and enrollment trends disaggregated by population groups.
- Assess trends in productivity.
- Review retention and success rates by modality and disaggregated by population groups.
- Analyze the throughput of students from every completion and assess time to completion and disproportionate impact.
- Collaborate with guided pathways success teams to determine if programmatic barriers exist.
- Establish program goals for success rates.

1. What data were analyzed and what were the main conclusions?

Efficiency, in terms of FTES/FTEF for the biology program as compared to AHC was analyzed. The target is a value of 15 or greater. The 2023-2024 value for AHC is 12.7 and for the biology program it is 16.6.

The fill rate for the biology program in 2023-2024 was 93% compared with AHC fill rate of 77%.

The AHC registration report for Spring 2025 shows enrollment in biology at its highest as compared to Spring 2024 and Spring 2020. In Spring 2020, there were 37 Biology sections offered and in Spring 2025 there are 41 sections offered.

Success and retention are comparable with overall AHC values in each Biology course, with the exception of BIOL 124 Human Anatomy. This course is typically the first attempted for the allied health majors and often without any previous college science course.

Since 2019, our time to degree has decreased from 4.4 years to 2.6 years.

The main conclusions are the biology program is in high demand and we are limited by lab space, faculty, and lab support to be able to accommodate more students into our courses. Our introductory courses for biology majors and allied health students have continued to accrue wait lists despite adding sections. More full-time faculty, lab support, and funding is required for any additional growth.

Looking at the Fall 2025 enrollment, our full-time LVC instructor has a BIOL 125 Human Physiology class that is full before the end of priority registration and zero waitlist seats are available. With the high demand for allied health pre-requisites, the biology program needs another full-time faculty member at LVC with an emphasis in Human Anatomy and Human Physiology. Scheduling at LVC is also an issue since the degree plans require courses, such as BIOL 100, to be offered certain days and times. This leaves all the Anatomy and Physiology on Tuesday and Thursday starting at 9:30 am and ending at 9:30 pm. Our current full-time instructor has taught this all-day schedule, but would like to have the opportunity for shorter days in future semesters. Anatomy and Physiology classes are not easily staffed with part-time instructors; therefore, we need another full-time biologist at LVC with experience in Anatomy and/or Physiology.

2. Based on the data analysis and looking through a lens of equity, what do you perceive as *challenges* with student success or access in your area of focus?

The biology program is challenged with meeting the demand for our courses given the faculty and lab space available. Even with a growth position three years ago, the demand for Human Anatomy remains high with long wait lists. Faculty have been teaching overloads and a new Friday only section was added in Santa Maria in Spring 2025.

Our first biology major course, BIOL 150 Cellular Biology, has had long wait lists for several semesters and a second section was added in Spring 2025. Even with two sections offered, there were still 15 students on the waitlist before the start of the semester. A second section has been added to the Fall 2025 semester as well.

3. What are your plans for change or *innovation*?

The biology program is in the process of working on two pathways for the biology majors. One pathway is to complete three semesters with BIOL 150 Cellular Biology, BIOL 154 General Botany, and BIOL 155 General Zoology. The second pathway is completion of BIOL 150 Cellular Biology and a new course in Organismal Biology that is currently in development.

The addition Friday section of BIOL 124 Human Anatomy has been added to the Fall 2025 schedule. It was taught this semester thanks to a full-time faculty member taking on additional overload, however, it should not be expected that current full-time faculty take on such large overloads in future semesters.

4. How will you *measure* the results of your plans to determine if they are successful?

We will keep track of wait lists and degrees awarded. We will also communicate with STEM counselors regarding the ability of students to schedule according to their student education plan (SEP).

Validation for Program Planning Process: If you have chosen to do the Validation this year, please explain your process and the findings.

1. Who have you identified to validate your findings? (Could include Guided Pathway Success Teams, Advisory Committee Members, related faculty, industry partners or higher education partners)
2. Are there specific recommendations regarding the core topic responses from the validation team?

Based on the narratives for the prompts above, what are some program planning initiatives and resources needed for the upcoming years? Use the tables below to fill in **NEW** resources and planning initiatives. ***This section is only used if there are new planning initiatives and resources requested that pertain to the Core Topic only.***

New Program Planning Initiative (Objective) – Core Topic Only	
Title (including number):	BIOL Obj 1 – Hire New Full-Time Faculty Member at LVC
Planning years:	2025-2026
Description:	
The department chair will submit to the Faculty Prioritization Committee a justification for a new full-time faculty position in Biology with an emphasis in Human Anatomy and Human Physiology. When approved for hire, biology faculty, along with the dean and department chair, will participate in the recruitment of this new position.	
What college plans are associated with this Objective? (Please select from the list below):	
<input type="checkbox"/> Ed Master Plan <input type="checkbox"/> Student Equity Plan <input type="checkbox"/> Guided Pathways <input type="checkbox"/> AB 705/1705	
<input type="checkbox"/> Technology Plan <input type="checkbox"/> Facilities Plan <input type="checkbox"/> Strong Workforce <input type="checkbox"/> Equal Employment Opp.	
<input type="checkbox"/> Title V	

Resource Requests: Please see attached Resource Request Excel template.

Initial Planning Document

Program: Biology

Program Learning Outcomes

1. Demonstrate knowledge of evolutionary principles and biodiversity.
2. Demonstrate knowledge of genetics, including the central dogma and heredity.
3. Demonstrate proficiency in using the scientific process to make hypotheses about natural phenomena, test those hypotheses, and analyze the results.
4. Demonstrate knowledge of homeostasis in regards to biological systems and functions.
5. Demonstrate knowledge of cell theory, including diverse cell types and functions.

Courses

Find your Courses here: <https://catalog.hancockcollege.edu/current/programs/index.php> You can copy and paste them from the site to this document.

Course Associations

I= Introduced

D=Developed

M= Mastered

Courses	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5
BIOL 100 Introductory Biology	I, D	I, D	I, D	I, D	I, D
BIOL 120 Humans and the Environment	I, D				
BIOL 124 Human Anatomy				I	I, D
BIOL 125 Human Physiology		I	I	D	D
BIOL 128 Microbiology	D, M	D	D	D	D
BIOL 132 Marine Biology	I, D		I, D	I, D	I, D
BIOL 150 Cellular Biology	I, D	I, D	I, D	I, D	I, D
BIOL 154 General Botany	D, M	D, M	D, M	D, M	D, M
BIOL 155 General Zoology	D, M		D. M	D, M	D, M

Planning Cycle (add rows as needed)

	PLO to Assess	Course(s) to Sample
2023-2024	PLO 2	BIOL 100, 128, and 150
2024-2025	PLO 3	BIOL 150
2025-2026	PLO 4	BIOL 132 and 125
2026-2027	PLO 5	BIOL 150 and 154
2027-2028	PLO 1	BIOL 120 and 155

Rubric for Assessing Regular and Substantive Interaction in Distance Education Courses

Course: Biol 120

Semester: Spring 2025

Reviewer:
Wendy Hadley

Part I: Regular and substantive interaction –Instructor Contact

Substantive interaction:

- | | |
|--|--|
| <input type="checkbox"/> The course doesn't show clear evidence of engaging students in teaching, learning, and assessment that is consistent with the content under discussion. | <input checked="" type="checkbox"/> The course shows clear evidence of engaging students in teaching, learning, and assessment that is consistent with the content under discussion. |
|--|--|

Explanation and/or examples:

1. The instructor designed a clear and easy to use Canvas page for student reference.
2. The instructor maintained set office hours and was available outside of these hours via email for student questions.
3. The assignments were clearly explained, and the students were required to participate in several interactive assignments that helped verify that each student was truly an individual to help prevent registration fraud.

In addition, the course shows evidence of at least two of the following:

1. Direct instruction:

- | | |
|--|--|
| <input checked="" type="checkbox"/> The course doesn't provide direct instruction. | <input type="checkbox"/> The course provides direct instruction. |
|--|--|

Explanation and/or examples:

1. The instructor provides assignments, but the students are allowed to complete them at their own pace.
2. The instructor is available during office hours and through email, but students are not required to make contact.
- 3.

2. Assessing or providing feedback on a student's coursework.

- | | |
|---|---|
| <input type="checkbox"/> The course doesn't show clear evidence of assessment and feedback on students' coursework. | <input checked="" type="checkbox"/> The course shows clear evidence of assessment and feedback on students' coursework. |
|---|---|

Explanation and/or examples:

1. The course has multiple quizzes and midterms to help assess student understanding and learning.
2. The instructor has the course grades clearly visible in Canvas and responds quickly to student inquiries
- 3.

3. Providing information or responding to questions about course content/competency.

☐ The course doesn't show clear evidence of responses to student questions about the course.

☒ The course shows clear evidence of responses to student questions about the course.

Explanation and/or examples:

1. The instructor was able to provide examples of answering student inquiries, and the student evaluations stated that the instructor was easy to contact and available for feedback.
- 2.
- 3.

4. Facilitating group discussion regarding course content/competency.

☐ The course doesn't show clear evidence of facilitating group discussions regarding course content or competencies.

☒ The course shows clear evidence of facilitating group discussions regarding course content or competencies.

Explanation and/or examples:

1. The instructor frequently posts discussions on the Canvas page that are designed to promote student engagement. The topics chosen for discussion are relevant to the course topic and content.
- 2.
- 3.

5. Other instructional activities approved by the college or accrediting agency.

☒ The course doesn't show any other evidence of instructional activities.

☐ The course shows other evidence of instructional activities (as described below).

Explanation and/or examples:

- 1.
- 2.
- 3.

Regular interaction:

1. Opportunities for substantive interaction on a predictable and scheduled basis

☐ The course doesn't provide opportunities for substantive interaction on a predictable and scheduled way.

☒ The course provides opportunities for substantive interaction on a predictable and scheduled way.

Explanation and/or examples:

- 1.
- 2.
- 3.

2. **Monitoring student academic engagement and success and promptly and proactively engaging in interaction** based on such monitoring or upon request by students.

- | | |
|---|---|
| <input type="checkbox"/> The course doesn't monitor student engagement and success nor engages in interaction based on that monitoring or upon request by students. | <input checked="" type="checkbox"/> The course monitors student engagement and success and engages in interaction based on that monitoring or upon request by students. |
|---|---|

Explanation and/or examples:

1. The instructor frequently posts discussions on the Canvas page to promote student engagement, and
2. students who are inactive are occasionally contacted by the instructor to encourage course completion.
- 3.

Part II. Regular and substantive interaction –Student-to-Student Contact

1. Giving students opportunities to initiate interaction with other students.

- | | |
|---|---|
| <input type="checkbox"/> The course doesn't provide opportunities for students to initiate interaction with other students. | <input checked="" type="checkbox"/> The course provides opportunities for students to initiate interaction with other students. |
|---|---|

Explanation and/or examples:

1. The students have a topic question posed to them each week and they are required to respond to the
2. question and then to respond to at least one of their peer's answers.
- 3.

2. Giving opportunities to engage in regular and substantive interaction with other students.

- | | |
|--|--|
| <input type="checkbox"/> The course doesn't provide opportunities for students to engage in regular and substantive interaction with other students. | <input checked="" type="checkbox"/> The course provides opportunities for students to engage in regular and substantive interaction with other students. |
|--|--|

Explanation and/or examples:

1. The required weekly interactions allow students to talk with and engage one
- 2.
- 3.

3. Providing guidelines explaining levels of participation and how participation will be evaluated.

- | | |
|---|---|
| <input type="checkbox"/> The course doesn't explain the levels of interaction between students expected from each student nor how such interaction will be evaluated. | <input checked="" type="checkbox"/> The course explains the levels of interaction between students expected from each student and how such interaction will be evaluated. |
|---|---|

Explanation and/or examples:

1. The instructor's syllabus clearly outlines course expectations and the requirements for successful
- 2.
- 3.

Program Review Signature Page:

Ashley Wise
Ashley Wise (May 29, 2025 11:56 PDT)

Program Review Lead

Date

Sean Abel
Sean Abel (May 29, 2025 12:11 PDT)

Program Dean

Date

[Signature]

Vice President, Academic Affairs

Date

[illegible]

Building maintenance, furniture requests, repairs

FACILITIES

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Bio PReview 2024-25 and resource

Final Audit Report

2025-07-17

Created:	2025-05-29
By:	Florentina Perea (fperea@hancockcollege.edu)
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-  Document created by Florentina Perea (fperea@hancockcollege.edu)
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Signature Date: 2025-07-17 - 11:56:47 PM GMT - Time Source: server- IP address: 104.28.124.173

✔ Agreement completed.

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