YEARLY PLANNING DISCUSSION TEMPLATE
General Questions

1. Program Name __Biology_____**Academic Year** _2025-2026__

2. 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.

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

   The number of Human Anatomy sections in Santa Maria and Lompoc has increased. We now have Friday only sections on both campuses and an additional morning section was added to the Fall 2026 schedule in Santa Maria. This course has also returned to the summer schedule in both Santa Maria and Lompoc. Even with these additional sections, there are long waitlists for both Human Anatomy and Human Physiology. Our current full-time faculty are already teaching overloads and it is extremely difficult to hire part-time instructors in these specialized courses. In the program review last year, we stated the need for an additional Anatomy and Physiology instructor at the Lompoc campus. In addition to that position, we are also in need of another Anatomy and Physiology instructor on the Santa Maria campus.

   One noteworthy change that will negatively impact our students is the end of a Title V grant that supported embedded tutors in classes not covered by the MESA/STEM embedded tutoring. These courses include BIOL 100 Introductory Biology as well as the allied health prerequisites BIOL 124 Human Anatomy and BIOL 125 Human Physiology. These courses are fundamental to supporting general education requirements and the nursing program.

   Other changes include the need to update some lab equipment, such as iWORX and mini water baths. The iWORX kits are out of date and the new procedures are written for a wireless setup, not the device we currently have. Some of the kits have wires and sensors that are nonfunctional. Our mini water baths have a lot of wear and tear. They are beginning to leak, which is a potentially hazardous condition for students and staff during lab classes.

   Facilities are also experiencing wear and tear. The chairs in M-310 are very noisy and disruptive during class time. The electrical outlets in M-105 often need to be reset or stop working all

together which makes it difficult to run lab experiments using water baths, hot plates, microscopes, and electronic balances when they are needed at each lab table.

New microscopes were purchased for the Introductory Biology and Marine Biology lab, however, there are not adequate dust covers for the microscopes. Some are torn or do not fit properly. To preserve and protect the microscope's components, we need to purchase microscope dust covers for this lab.

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

   The map is in place and we have an extremely high demand for our biology major courses. Two sections of BIOL 150 fill each semester with students on the waitlist and BIOL 155 is full in Fall 2026 with 15 students on the waitlist. More sections of BIOL 155 and BIOL 154 are needed to meet the demand, however, this is a challenge since these courses share lab space with other classes and faculty are already teaching overloads.

5. Were there any staffing changes?

   A lab assistant was hired for the Santa Maria campus in Fall 2025. Several part-time instructors were hired to teach BIOL 100, mostly during the evening in Santa Maria, and additional sections of BIOL 124.

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

   In our survey of 199 science students, 83.4% rated their science course experience as Excellent or Good. Students also are in high agreement that our lab equipment is adequate (97.4%), technology is available (93.8%), classrooms/labs are effective learning environments (93.8%), and Canvas supports learning (93.2%).

   Students in science courses use the following services most often: Library, Academic Resource Center, Bookstore, MESA/STEM center, Financial Aid, and the Math Center. In the survey, students rated these services as helpful and easy to access.

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 knowledge of homeostasis in regard to biological systems and functions.

This PLO was assessed in BIOL 125 Human Physiology and BIOL 128 Microbiology.

In BIOL 125, the assessment used was a paper lab followed by a lab quiz given to students after they had performed the laboratory. The students were responsible for understanding information on homeostasis such as, being able to identify the major components of homeostasis and being able to diagram and label a homeostatic pathway from a written paragraph given different information about a biological system.

In Fall 2025, 87% of the students met the PLO. In Spring 2025, 86% of the students met the PLO.

In BIOL 128, the assessment used was a lab report on Mueller Hinton (MH) antibiotic testing regarding the topic of bacterial resistance and how it develops to maintain homeostasis in changing environments. In order to complete this report, the students watched a PBS Frontline educational video entitled "Hunting the Nightmare Bacteria" which introduces the concept of pan-resistant bacteria and the detrimental effects that they are having on our healthcare system. Next, they set up their own MH testing with two different microbes and exposed them to the same antibiotics to evaluate their different survival rates. After growing the microbes for 24 hours, the students were required to read and interpret their MH test results and indicate if they would advise a physician to use the antibiotics they tested for patient treatment. If the microbe showed signs of a mutation that made the antibiotic less effective, they had to address the issue and explain to the physician why that antibiotic should be avoided for that bacterium in the future. The students explained their findings by discussing homeostasis, natural mutation, scientific method testing, experimental results, and discussion with data analysis and interpretation.

In Fall 2025, 82% of the students met the PLO. In Spring 2026, 78% of the students met the PLO.

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

For BIOL 125, this assessment is one of the first assessments given to students during their journey in Human physiology and is typically performed on the third week of the semester. When obtaining the PLO data from Fall 2025, the way the information was presented to students was modified with the hope of allowing students to integrate and understand the information with the hope of increasing learning. The changes made to how the information was presented in Spring 2026 appeared to have no real effect on the PLO result as outcomes were similar between Fall 2025 and Spring 2026.

For BIOL 128, This assessment is designed to stimulate critical thinking and increase awareness of the risks associated with antimicrobial resistance. This is an important topic since these students are pursuing a career in healthcare, and this issue is one that is typically avoided since there is not an easy solution currently in place. The students need to understand the concept of homeostasis and how organisms must maintain an internal balance for their survival. If an organism is facing a changing environment they can mutate to try and re-establish homeostasis, leading to other consequences for organisms sharing their environment.

In the Fall more BIOL 128 students showed a successful understanding of this concept than in the Spring, but I suspect this may be due to outside factors such as increased living stress and rising expenses that students are balancing this year. I am basing this hypothesis on the many students who shared with me that they had not completed the assignment to the best of their abilities due to concerns and struggles outside of the classroom, and on the data reflected in my quiz and exam averages which show a slight decrease this Spring in comparison to the Fall semester.

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 in BIOL 125 for Fall 2026 is to streamline the lectures and labs in which homeostasis is being taught and to elevate its importance in understanding human function over the course of the semester. The hope is that students will be able to ascertain how important homeostasis is and to be able to identify the different areas of homeostasis in the multitude of topics that are covered in Human Physiology.

The plan in BIOL 128 for Fall 2026 is to extend the due date slightly to give students additional time to ask questions, evaluate their results, and summarize their findings before submitting their report. The goal of this extended deadline is an attempt to alleviate student stress since so many of them have shared that the outside financial and political climate around them is negatively impacting their coursework.

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

The BIOL PLO Planning Document is attached. A minor update was made regarding which courses will be assessed each year in the planning cycle.

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 Course*s)

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

   BIOL 120 Humans and the Environment is the only DE course offered in Biology.

   The peer review rubric has been submitted for this class with the last two program reviews and therefore was not completed this year. The course has the same instructor as last year.

b. What were some key findings regarding RSI?
   - Some strengths:
   - Some areas of possible improvement:

c. What is the plan for improvement?

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

N/A

a. Does the program meet documented labor market demand?
b. How does the program address needs that are not met by similar programs?
c. Does the employment, completion, and success data of students indicate program effectiveness and vitality? Please, explain.
d. 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?
e. 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 – Embedded Tutors for BIOL 100, BIOL 124, and BIOL 125
Planning years:	*2026-2027*

Description:

District funding is needed to maintain the embedded tutors that were being supported through a Title V grant. The cost of a tutor per class section is $2560, based on the tutor working 10 hours a week for 16 weeks at $16/hr. We anticipate a demand of at least six embedded tutors each semester for these courses.

What college plans are associated with this Objective? (Please select from the list below):

■ **Ed Master Plan** ■ **Student Equity Plan** ■ **Guided Pathways** ☐ AB 705/1705

☐ Technology Plan ☐ Facilities Plan ☐ Strong Workforce ☐ Equal Employment Opp.

☐ Title V

New Program Planning Initiative (Objective) – Yearly Planning Only	
Title (including number:	BIOL Obj 2 – Hire New Full-Time Faculty Member in Santa Maria
Planning years:	*2026-2027*

Description:

With the addition of several new Human Anatomy sections and long waitlists in both Anatomy and Physiology, the program needs a new full-time faculty position in Biology with an emphasis in Human Anatomy and Human Physiology at the Santa Maria campus. Current full-time faculty are already teaching overloads, and it is very difficult to hire part-time instructors for these classes.

What college plans are associated with this Objective? (Please select from the list below):

■ **Ed Master Plan** ■ **Student Equity Plan** ■ **Guided Pathways** ☐ AB 705/1705

☐ Technology Plan ☐ Facilities Plan ☐ Strong Workforce ☐ Equal Employment Opp.

☐ Title V

New Program Planning Initiative (Objective) – Yearly Planning Only	
Title (including number:	BIOL Obj 3 – Upgrade and Maintain Lab Materials
Planning years:	*2026-2027*

Description:

To maintain the quality of our lab curriculum, we need to update older equipment (iWORX), replace worn out materials (mini water baths), and protect what has been recently upgraded (dust covers for new microscopes).

What college plans are associated with this Objective? (Please select from the list below):

■ **Ed Master Plan** ■ **Student Equity Plan** ■ **Guided Pathways** ☐ AB 705/1705

☐ Technology Plan ☐ Facilities Plan ☐ Strong Workforce ☐ Equal Employment Opp.

☐ Title V

New Program Planning Initiative (Objective) – Yearly Planning Only	
Title (including number:	BIOL Obj 4 – Upgrade and Maintain Classroom Facilities
Planning years:	*2026-2027*

Description:

The chairs in M-310 are very noisy and disruptive during class time. The electrical outlets in M-105 often need to be reset or stop working all together which makes it difficult to run lab experiments using water baths, hot plates, microscopes, and electronic balances when they are needed at each lab table.

What college plans are associated with this Objective? (Please select from the list below):

■ **Ed Master Plan** ■ **Student Equity Plan** ■ **Guided Pathways** ☐ AB 705/1705

☐ Technology Plan ■ **Facilities Plan** ☐ Strong Workforce ☐ Equal Employment Opp.

☐ 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 125 and 128
2026-2027	PLO 5	BIOL 124 and 154
2027-2028	PLO 1	BIOL 120, 132, and 155

Area of Focus Discussion Template
ACADEMIC SERVICES AND SUPPORT

Academic Services and Support – assess and improve relationship with tutorial services, library, counseling, learning assistance program (LAP), etc. and evaluate co-curricular support courses.

Possible topics:

- Collaborate with student success team members to ensure institutional barriers are mitigated.
- Review and summarize student support options.
- Implement student surveys and evaluate results.
- Assess co-curricular support programs and services.

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

   A survey was developed with Institutional Research and administered to students enrolled in science courses. We received 199 responses.

   The Executive Summary by Institutional Research provided the following main conclusions:

   Overall sentiment is positive. Among respondents who answered the overall rating item, 83.4% rated their science course experience as Excellent or Good. In addition, 81.8% were Very or Somewhat confident that Hancock is helping them progress toward their science-related goal.

   The core instructional environment is a clear strength. Agreement was especially high for lab equipment adequacy (97.4%), classrooms/labs as effective learning environments (93.8%), technology availability (93.8%), and Canvas support for learning (93.2%).

   Scheduling and course availability are the main pressure points. Students were broadly positive about being able to enroll in the courses needed (87.0%), but lower on whether courses are offered often enough (77.1%) and at times/formats that fit their schedules (69.3%). The most frequently selected barrier was course times conflicting with work or family responsibilities (57.8% of respondents who selected barriers).

   Learning gains are strongest in hands-on and conceptual areas. Students most often reported that courses helped them a lot or a great deal with lab/technical skills (70.2%) and understanding scientific concepts (63.0%). Gains were weaker for understanding transfer/career options related to science (54.1%).

Student support services are valued, but there are uneven spots. The Library, Academic Counseling, Bookstore, MESA/STEM Center, Financial Aid, and Math Center were the most-used services. Most services were rated easy to access and helpful; Financial Aid and LRC tutoring in Lompoc had comparatively lower helpfulness ratings, though the Lompoc tutoring n was small.

Open-ended comments point to a practical action agenda. Preserve faculty support, labs/demos, and MESA/STEM/tutoring. Improve section availability, scheduling flexibility, high-demand course access, evening/Lompoc options, tutoring hours, counseling/SEP accuracy, and consistency of instruction.

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?

   From our Open-Ended responses, the following themes emerged regarding what students would like changed and the greatest-impact barriers:

   Most important changes. The dominant change request is more practical access: more sections, more seats, fewer time conflicts, more evening/afternoon options, better sequencing of lecture/lab schedules, and stronger access for students balancing work, family, transportation, or Lompoc/Santa Maria travel. Students also asked for tutoring and office hours at times they can actually use, better communication about expectations, clearer counseling/SEP guidance, and more consistent instructional quality across sections.

   Greatest-impact barriers. The comments on greatest-impact barriers largely mirror the closed-ended results: scheduling conflicts, limited seats/sections, required courses offered too infrequently, work/family constraints, transportation, and access to tutoring/support at usable times. A smaller but important set of comments raised counseling accuracy, financial aid stress, learning accommodations, cost of materials, technology/equipment, and uneven classroom instruction.

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

   More communication from faculty regarding tutoring options and availability in both the MESA/STEM center and Academic Resource Center (ARC). Tutoring is available in person or Zoom for many courses and some tutors have availability until 8 pm. During finals week and a few days before, there are extended hours until 10 pm in the MESA/STEM Center. Faculty can share more information about these flexible options during class, via Canvas, and have someone from MESA/STEM or ARC attend a class session.

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

   Another student survey will be administered in the 2028-2029 academic year.

Resource Requests: Please see attached Resource Request Excel template.

Program Review Signature Page:

Ashley Wise Ashley Wise (May 28, 2026 08:21:46 PDT)	May 28, 2026
Program Review Lead	Date
Sean Abel (May 28, 2026 08:22:43 PDT)	May 28, 2026
Program Dean	Date
	Jun 15, 2026
Vice President, Academic Affairs	Date

Biology Academic Services and Support_YPU Combined

Final Audit Report 2026-06-15

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