

## Mini Instructional Program Review: Biology

### Cover

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#### Overview

**Year of Last Comprehensive Review** Fall 2018

**Year of Last Mini Update, if applicable**

**Originator** Hays, Lisa

**Area Dean** Antoinette Herrera

#### Division

Math, Sci. & Engineering

#### Department

Biology

#### Subject

- BIOL

**Is this a review for a degree/certificate or all the courses in the subject?**

All Courses

Courses with no Degree or Certification

### Co-Contributors

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\*Co-Contributor must be chosen before proposal is launched

- Chen, May
- Ernst, Darcy
- Gonzalez, Alfred
- Kurushima, Jennifer
- Pang, Lisa
- Tavana, Azita

### Goals

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- **1a). Provide a brief summary of your program's success and changes since your last comprehensive program review.**

The number of declared majors includes AA-Biology, AS-T Biology, AA in General Studies with Emphasis in Health Science and AA in General Studies with Emphasis in Natural Science. Since the last program review in 2018, there was an increase of 250% in the number of students with a major in the Biology Programs. Our course offerings remain diverse to excite the non-biology majors with topics like forensic biology, marine biology and ecology. With the Covid 19 pandemic, the biology department quickly adapted to online labs which we found barely acceptable. Faculty became

creative and designed take home lab kits for students and safely distributed them to students in the EVC parking lot. With the generosity of taxpayers and the 2020 Covid Relief Act, we were able to purchase equipment and supplies to support social distancing and a safe return to campus for 70% of our lab courses. We were the only college in the South Bay, besides Ohlone College, to bring biology labs back to campus for fall 2021.

- **1b). Identify which strategic initiative your program will focus on during the coming academic year.**

The Biology Department will focus on the strategic initiative of student-centered during this academic year. The pandemic is not over and will not be for a long time. How can we best serve our students and their need for safety, comfort and high-quality transferrable courses? The department is looking forward to the college surveys to students and their preferred method of delivery for classes. One of the biggest challenges we have is students missing class because of quarantine. Any exposure to Covid requires them to miss 10 days of class which can be 2 weeks of lab work. How will we offer them take-home labs that are similar to ones in class without the budget and necessary supplies?

### Program Set Standards (Summary Tab)

**Overall, EVC’s Institution Set Standard for success rate is 72%, and the aspirational goal for student success is 75%.**

Success Rate (completion with "C" or better)	ProgramEVC	Program Set Standard (established during last comprehensive PR)	Program Success Goal (new)
F17-F20 average	71.44%		

**Program**

**Program Success Rate** 72.2%

**Program Set Standard** : It is recommended that programs identify a success standard. This standard should reflect the baseline success rate.

**Program Set Standard** 71.0%

**Recommendation:** 90% of the 2 year average success rate could be your program standard (average x 0.9).

**Program Success Goal** : It is recommended that programs identify a success goal. This goal should reflect the success rate to which your program aspires.

**Program Success Goal** 75%

- **2a). If your program’s success rate is higher than the campus, how are you helping students succeed in and outside the classroom? If your program's success rate is lower than the campus, what are some strategies your program is implementing to improve?**

The organization of our department has improved since our last comprehensive program review. With our newly designated department lead, Dr. Lisa Hays, we have created a unified team with clearly aligned goals for our biology program. Our program’s success can be largely attributed to our dedicated instructors and laboratory technicians who have created high quality biology labs for both

in-person and virtual instruction. During the pandemic, our instructors and lab technicians created lab kits for students to take home to maintain hands-on lab activity while learning in a virtual environment. Additionally, through careful planning of individualized, socially distanced, and safe laboratory practices, our instructors and lab technicians resumed the delivery of high quality in-person labs during the fall 2021 semester, while most other community college biology departments remained online.

Outside of the classroom, our biology department also offers tutors and a skills lab for our anatomy, physiology, and microbiology students, individual advising from instructors, and a STEM counselor. As a department, we are also in the process of reviewing additional high quality low and no cost textbooks to incorporate into our courses.

- **2b). How close is the program to meeting the program success goal?**

The program success goal we set during our previous comprehensive program review was 71%. Since we have surpassed our previous goal with a current program success rate of 72.20%, we have set a new program success goal of 75%. We are very close (2.8%) to our new goal. Our success rate fluctuates from semester to semester. However, we believe we will be able to meet or surpass this goal within the next five years.

- **2c). Is the current program success rate higher than the program set standard?**

Yes - Our current program success rate (72.20%) is higher than the program set standard (71.0%) by +1.2%.

- **2d). Are these measures (program set standard and program success goal) still current/accurate? If not, please describe here and reset the standards.**

Yes - The program set standard (71.0%) was established during our previous comprehensive program review. Additionally, since our program currently has a greater success rate than our previous program success goal, we have established a new program success goal of 75%.

- **2e). Discuss any changes in success rate since last comprehensive program review. If success rates have decreased discuss a plan to deal with the decrease. If success rates have increased discuss reasons for the success.**

Success rates have increased for our department due to several of the factors mentioned previously in Section 2a. The organization of our department has improved since our last comprehensive program review. With our newly designated department lead, Dr. Lisa Hays, we have created a unified team with clearly aligned goals for our biology program. Our program's success can also be largely attributed to our dedicated instructors and laboratory technicians who have created high quality biology labs for both in-person and hybrid instruction. Outside of the classroom, our biology department also offers tutors and a skills lab for our anatomy, physiology, and microbiology students, individual advising from instructors, and a STEM counselor. As a department, we are also in the process of reviewing additional high quality low and no cost textbooks to incorporate into our courses.

## Curriculum

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- **3a). State if curriculum is up to date. If curriculum is not up to date state a plan of how all courses will be in compliance.**

The following courses are not up to date: BIOL 004B, BIOL 025, BIOL 063, BIOL 064, BIOL 065, BIOL 072, BIOL 074 and BIOL 080A

Submitted for deactivation: BIOL 025, BIOL 080A

Updates launched: BIOL 004B, BIOL 063, BIOL 064, BIOL 065, BIOL 072, BIOL 074

## Student Learning Outcomes and Assessment

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**Your program review will not be approved unless every SLO for every course in your program, and every PLO (if your program has a degree or certificate) is complete and approved by EVC's SLO Coordinator. All SLOs and PLOs must be assessed every two years.**

### Student Learning Outcomes

### Program Learning Outcomes

- **4a). Outline at least one example of adjustments in instruction as a result of SLO assessment.**

Due to SLO assessment, Dr. Darcy Ernst noticed that students were not accomplishing the SLO related to evolution and phylogeny for BIOL 004B at very high rates. This SLO was written as "Construct and evaluate the phylogenetic relationships among the major taxonomic groups." She found students were doing well at evaluating phylogenetic relationships but not constructing them. Instruction the following semester was adjusted to include multiple ways in which to practice building phylogenies (she added an online lab, two in-class assignments, and a worksheet). She is already seeing massive improvements in students' understanding and ability to construct phylogenies this semester due to these interventions.

## Budget Planning

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### 5a). Did you request Resource Allocation funds in your last Program Review?

Yes

**How much funding did you request?** \$428,000

**How much funding did you receive?** \$14,860

**Please discuss the use of funds received(include how this use of funds impacted students)**

#### **Amount Requested in 2018:**

1. Instructional Supplies - at least \$40,000/year
2. Faculty and staffing - \$25,000/year (increased hours/months for biology skills assistant) and \$85,000/year (full-time faculty member)
3. Facilities - \$3,000 greenhouse repair, \$16,000 instructional garden

4. Technology – \$1,000 3D printer for anatomy lab, \$8,000 thermal cycler PCR

5. Equipment/Supplies – One-time \$250,000

Ongoing Budget needs (#1 and #2): \$150,000

One-time Expenditure (#3, #4 and #5): \$278,000

#### **Amount Received in 2018:**

1. Instructional Supplies – \$14,860/year

2. Faculty and staffing – **None** (two of our faculty members retired and we replaced two positions)

3. Facilities - **None**

4. Technology - **None**

5. Equipment/Supplies – **None**

#### **Are you requesting additional resources?**

Yes

#### **If yes, please fill out resource allocation request**

#### **Future Needs and Resource Allocation**

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Based on the areas noted below, please indicate any unmet needs for the program to maintain or build over the next two years. Please provide rationale on how the request connects back to SLO/PLO assessment, strategic initiatives or student success. If no additional requests are needed in any of the areas, put N/A.

##### **1. Faculty Request**

###### **Ongoing Budget Needs**

\$80,000/year x 4

###### **One-Time Expenditure**

###### **Total Expenses (Staffing and Faculty Requests include Salary and Benefits)**

###### **Request linked to SLO/PLO #**

Design, conduct, analyze, and/or report the results of investigations and experiments in the laboratory and/or field.

###### **Total Cost**

###### **Strategic Initiatives (student centered, organizational transformation, community engagement)**

Yes

###### **Improving Student success rates**

Yes

###### **Achievement of program set standard for student success**

Yes

##### **2. Staffing Request**

###### **Ongoing Budget Needs**

\$75,500/year

###### **One-Time Expenditure**

###### **Total Expenses (Staffing and Faculty Requests include Salary and Benefits)**

###### **Request linked to SLO/PLO #**

Practice current or industry-standard laboratory techniques and lab safety procedures.

**Total Cost**

**Strategic Initiatives (student centered, organizational transformation, community engagement)**

Yes

**Improving Student success rates**

Yes

**Achievement of program set standard for student success**

Yes

3. **Facilities**

**Ongoing Budget Needs**

**One-Time Expenditure**

1st floor sequoia remodel

**Request linked to SLO/PLO #**

Practice current or industry-standard laboratory techniques and lab safety procedures.

**Total Cost**

**Strategic Initiatives (student centered, organizational transformation, community engagement)**

Yes

**Improving Student success rates**

Yes

**Achievement of program set standard for student success**

Yes

4. **Technology**

**Ongoing Budget Needs**

**One-Time Expenditure**

\$50,000

**Request linked to SLO/PLO #**

Practice current or industry-standard laboratory techniques and lab safety procedures.

**Total Cost**

**Strategic Initiatives (student centered, organizational transformation, community engagement)**

Yes

**Improving Student success rates**

Yes

**Achievement of program set standard for student success**

Yes

5. **Equipment/Supplies**

**Ongoing Budget Needs**

\$40,000 additional/year supplies

**One-Time Expenditure**

**Request linked to SLO/PLO #**

Employ the scientific method in the design, implementation, data collection, and analysis of experiments or observational studies.

**Total Cost****Strategic Initiatives (student centered, organizational transformation, community engagement)**

Yes

**Improving Student success rates**

Yes

**Achievement of program set standard for student success**

Yes

## Attach Files

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## Attached File

Fall 2021 Instructional Supplies and Equipment Request.xlsx (/Form/Module/\_DownloadFile/1965/41814?fileId=81)

Future Needs BIOLOGY DETAILS.docx (/Form/Module/\_DownloadFile/1965/41814?fileId=82)

## IEC Reviewers

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**IEC Mentor**

Fahmida Fakhruddin

**IEC Second Reader**

Vicki Brewster