PROGRAM REVIEW Fall 2018

Program: Biology

Division: MSEPS

Date: 10/3/18

Writer(s): Ann Hight, Segal Boaz, Darcy Ernst, Jill Carbone, Michal Shuldman, Barbara Zingg

SLO/SAO Point-Person: Ann Hight

Audience: *Deans, Vice Presidents of Student Services and Academic Services, All Planning and Allocation Committees. This document will be available to the public.*

Uses: *This Program Review will be used to inform the campus and community about your program. It will also be used in the processes of creating Division Summaries, determining College Planning Priorities and allocating resources. A final use is to document fulfillment of accreditation requirements.*

Time Frame: *This Program Review should reflect on program status during the 2017-18 academic year. It should describe plans starting now and continuing through 2018-19. This document also provides the opportunity to describe more long-term plans (optional).*

Sections*: The first section of this Program Review focuses on general program reflection and planning. The second section has specific questions to be filled out by all programs this year. The third section is an SLO/SAO update. The fourth section is a review of curriculum. Only programs with curriculum need to complete Section 4.*

Topics: *A list of topics of particular interest to Program Review readers can be found here:* https://goo.gl/23jrxt

Help: *Contact Karin Spirn: kspirn@laspositascollege.edu*

Instructions:

1) *Please respond to each question as completely as possible.*
2) *If the requested information does not apply to your program, write "Not Applicable."*
3) *Optional: Meet with your dean to review this document before* **_____.**
4) *Send an electronic copy of this form to Karin Spirn and your Dean by _____.*

Links:

Program Review Home Page: https://goo.gl/XATgjJ

Fall 2017 Program Review Updates : https://goo.gl/pkv76m

Frequently Asked Questions: https://goo.gl/ilhRtt

Section One: Program Snapshot

No Significant Changes Option

Contact person: _____

By marking an X in the box above, the writers of this Program Review indicate that there have been no significant changes to their program or their program's needs in the past year. In this case, programs may opt not to complete Program Review Section One: Program Snapshot. **Programs must still complete all other sections (as applicable).**

Please note: Choosing this option means that your program's information may not be included in the yearly Division Summary.

The No Significant Changes Option may only be used for two years in a row; after two years, programs must complete a full Program Review including the Program Snapshot. Our program's most recent Program Review was submitted in the following semester: Fall 20_____.

A. Program Description: Briefly describe your program, including any information or special features of your program that will provide helpful context for readers of this Program Review.

The Biology Program provides a diverse array of educational opportunities to meet the needs of our community. Academic pathways are available for students seeking transfer to four-year institutions, an AA degree in Biology or AA in Biology: Allied Health, AS-T Biology, pre-nursing and pre-dental hygiene program preparation, and pre-professional goals (e.g., medicine, radiology, optometry, paramedic, veterinary). Additionally, the program offers courses required for various AA/AS degrees and certificates (e.g., Horticulture, Kinesiology, Psychology, Viticulture/Enology), and to meet general education requirements.

B. Changes to Program and Needs: Describe any significant changes to your program or your program's needs since the previous Program Review Update (Fall 2017).

Facilities

Our primary and most urgent need is for more facilities. We are currently involved in the planning of a new Biology building in the Facilities Master Plan. Without a new space we face increased scheduling challenges as we continue to add more classes to the schedule, mostly due to impacted lab and lecture space. It is particularly difficult for full-time faculty to make load when teaching Bio 30, our introductory biology class. The growth of our program, in number of sections and student headcount, mandates increased lecture rooms, biology labs and learning centers.

The Biology Learning Center (BLC) is utilized by all of our laboratory classes and is heavily impacted. We have made some space adjustments to maximize the space in the BLC but the changes were are? not sufficient to meet student needs. We expect the BLC to be further impacted during the semesters that have 3 sections of Bio 1B. The BLC requires faculty oversight but due to the overcrowding there is not enough space for many faculty to effectively hold office hours in the BLC.

We continue to have limited space for the Anatomy students to use anatomical models outside of class. Students and the anatomical models take up valuable space in the BLC and contribute to overcrowding. The anatomy models are large and require our highly trained prep staff to continually stop their work to bring models in and out of the BLC. A new dedicated space for anatomy students could house the models, freeing up much needed space in the current BLC and minimizing the interruptions to the prep staff. Extra time with the models in the BLC is correlated with student success, as the anatomy students earning A's and B's are the same students using the BLC to study.

Honors projects and Independent Study projects need to take place in the BLC and the adjacent Microbiology workroom. Increased student use of the Microbiology workroom impacts the ability of the Microbiology students to effectively use the space and complete their course objectives. These problems are exacerbated as the Biology program grows. The growth means there are more independent student projects and more sections of Microbiology.

We started a pilot program with a local biotechnology company (see below, section C, #11). If the pilot program goes well, we could expand this particular program and develop further partnerships with local biotechnology industry scientists. Our primary limitation for this type of project is space - facilities and storage for student and industry scientists to run these projects is very limited at this point, and we are having to work carefully around class times and faculty availability in order to facilitate this project. If the project were to expand we would certainly need increased lab space.

Food used in many labs (Bio 1A, Bio 7B, Bio 1B, Bio 30, Bio 50) is temporarily stored in room 1813 but needs a permanent location. This would require designing a space in a new building or altering a current space to meet food safety standards.

Staffing

We need Human Resources to recruit and maintain a pool of adjuncts instructor applications. Many other local community college districts maintain an adjunct pool advertisement on the CCC Registry. Some other departments at LPC have been able to post jobs as well. Having a large pool of highly qualified adjunct faculty is especially important as we expand our course offerings. Every semester we have to hire faculty at the last minute due to staffing changes. Last minute hiring does not allow for appropriate vetting of candidates or enough time for the new faculty to prep their courses.

The STEM Program Coordinator works for a limited number of hours each week to support many existing STEM initiatives (Math Jam, Engineering Technology Learning Community, High School Outreach, LLNL/LPC Science and Engineering Seminar Series, Undergraduate Research Poster Session, Manufacturing Day, job fairs, updating

brochures, connecting to employers, among others). Funding for the STEM coordinator is and has been grant-funded, without benefits. The goal of creating this STEM Coordinator as permanent classified position is to institutionalize what has been a temporarily funded position.

We want to explore how to diversify the biology faculty. We would like to inquire about what systems, protocols, and practices could potentially be modified to increase the diversity of our faculty members.

Supplies and Budget

The general budget for biology laboratory supplies does not match the growth of our course offerings or the industry-level technology used in our curriculum. Many of our course-level and program-level SLOs reflect student's competency in lab skills and using industry-level equipment. For example one of our PSLOs is: *"Students are able to demonstrate proficiency in standard biology lab techniques and lab safety procedures."*

We need to institutionalize reliable funding versus stop-gap measures to accomplish goals each semester. Faculty spend a lot of time seeking funding each semester to fulfill curriculum goals. Our department is currently exploring adding a biotechnology course(s), degree, or certificate to the program, however it will not manifest without sufficient and sustainable funding for our current programs. For example, we still do not have a budget for Honors and Independent Study Projects. Faculty or students are currently using left over supplies and/or paying out of their own pockets for these projects. This is not equitable for students who don't have the resources to fund their own projects.

This year we installed a carbon dioxide delivery system for anesthetizing flies. We have experienced outages with the system; we need an immediate backup for times the system is not functioning. The life cycle of a fly is fixed and students need access to carbon dioxide at specific times based on the life stage of the flies. The immediate temporary fix is Alka-seltzer. We need an efficient way to buy and stock Alka-seltzer. This will involve collaboration with the Dean, lead lab tech, and Bio 1C instructor. The current system of lab technicians buying Alka-seltzer with their personal funds and providing the campus with an interest free loan while they wait to be reimbursed is not sustainable.

We still do not have an efficient system in place for students to check out supplies such as insect nets and binoculars. An electronic check-out system would be more time efficient and help students keep track of due dates, and avoid late fees, and holds on registration.

Student Learning and Curriculum

We would like to reevaluate many of our lab activities and lab manuals to see if student learning would improve with more inquiry-based instruction. This takes significant full-time faculty time and collaboration with adjunct faculty and lab technicians. Project-based learning and inquiry-based instruction are quickly becoming the standard in science education.

Biology and Physics faculty are collaborating on the development of the Environmental Studies and Environmental Science programs. We are working on developing an Environmental Studies certificate for a wildlife technician. This requires the development of a new field biology course, which involves researching, and visiting field sites, and obtaining appropriate permitting. Developing the Environmental Studies certificate also requires creating an Advisory Board consisting of LPC faculty, local employers or other community representatives. We need to update the Bio 40 course outline to meet C-ID. Environmental Studies and Environmental Science are an interdisciplinary field and has no dedicated faculty lead or reassign time for coordinating the program. Therefore progress is slow.

Mark an X before each area that is addressed in your response.				Definitions of terms: https://goo.gl/23jrxt			
X	Community Partnerships/Outreach	**X**	Facilities, Supplies and Equipment, Software		LPC Planning Priorities		Services to Students
X	Curriculum	**X**	Financial/Budgetary		LPC Collaborations	**X**	SLO/SAO Process
	Enrollment Management	**X**	Human Resources		Pedagogy		Technology Use
	External Factors		Learning Support		Professional Development		

C. Reflection: What plans from the 2017 Program Review or any previous Program Reviews/Updates have been achieved and how? You may also describe achievements that were not planned in earlier Program Reviews.

1) We purchased and installed a Carbon Dioxide delivery system to anaesthetize flies. This was purchased through a one-time funding grant.
2) We hired a full-time biology instructor for non-majors biology. This involved the Faculty Hiring Prioritization Committee and Human Resources.
3) Several full-time, and adjunct faculty, developed 6 Smart Shop workshops addressing basic skills needs for our biology students. This was funded by the Basic Skills grant.
4) Through the Curriculum Committee, we updated the course outline for Bio 70, a general GE class that can also serve as elective of the Environmental Studies degree.
5) Through the Curriculum Committee, we updated the AA- Biology and AA- Biology: Emphasis in Allied Health degrees.
6) Working with community members on the BioSci Advisory board, and the curriculum committee, we created a new degree (AA- Computational Biology) and new Certificate (Computational Biology).
7) We are planning to offer Bio 55 (Orientation to Health Care) in spring 2019. This involves CEMC and Curriculum Committee.
8) We are updating the Bio 40 course outline to match CID through the curriculum process.
9) Working with other disciplines, adjunct faculty, and the Curriculum Committee, we are currently investigating the creation of an Environmental Studies certificate.
10) We are continuing to explore ways to support and include our adjunct faculty in our department. We have offered more department meetings open to adjunct faculty and starting fall 18, we will be offering more opportunities for them to earn professional responsibility hours. We are exploring how to improve "on-boarding" for new adjunct faculty.
11) The biology department has partnered with two local biotechnology industry scientists to pilot a program in which our students would work as research assistants to local biotech entrepreneurs. The current pilot project is a small startup operation that is developing point-of-care assays for cervical cancer screenings. These devices could be deployed anywhere, and could make a major impact on rural healthcare. The startup founders have funding for development of the assay, including instruments and reagents for the project. This has benefits for the biology department and science programs here at LPC, as our instrumentation

capabilities will be increased on campus. This pilot project will provide high-level training and experience for our students, giving them skills that can be taken directly to industry and be built on for their future careers. If the pilot program goes well, we could expand this particular program and develop further partnerships with local biotechnology industry scientists. Our primary limitation for this type of project is space - facilities and storage for student and industry scientists to run these projects in very limited at this point, and we are having to work carefully around class times and faculty availability in order to facilitate this project. If the project were to expand we would certainly need increased lab space.

Mark an X before each area that is addressed in your response.				Definitions of terms: https://goo.gl/23jrxt			
X	Community Partnerships/Outreach	**X**	Facilities, Supplies and Equipment, Software		LPC Planning Priorities		Services to Students
X	Curriculum		Financial/Budgetary	**X**	LPC Collaborations		SLO/SAO Process
X	Enrollment Management	**X**	Human Resources		Pedagogy		Technology Use
	External Factors	**X**	Learning Support		Professional Development		

D. IR Data Review: Describe any significant trends in your program's data from the office of Institutional Research and Planning. (Note: this information will be available in August 2018. Not all Programs have IR data packets available; if your program does not have a data packet, you may note that in the response box). You may also discuss any other data generated for your program by the Office of Institutional Research and Planning.

The biology department increased the number of students served as measured by student headcount (increased 12%) and course enrollment (increased 15%). Even with this increase in student enrollment, grade distribution has been stable across years (66% course success, 15% non-success, 19% withdrawal).

We have seen an increase in latino students (25%-31%), and multiethnic students (5-8%), reflecting total LPC data.

In our DE courses, we have seen an increase in student success (42% to 61%), which makes the success rate in DE courses closer to our F2F success rate of 66%.

Overall increase of FTEF from full-time faculty from 29%-45% (99% fill rate), stable (but low) FTEF from full-time faculty for spring at 31% (95% fill rate)

Our biology set standard is 68.2%, above the required set standard of 63%.

Mark an X before each area that is addressed in your response.				Definitions of terms: https://goo.gl/23jrxt			
	Community	**X**	Facilities, Supplies		LPC Planning Priorities	**X**	Services to

	Partnerships/Outreach		and Equipment, Software				Students
	Curriculum	**X**	Financial/Budgetary		LPC Collaborations		SLO/SAO Process
X	Enrollment Management	**X**	Human Resources		Pedagogy		Technology Use
	External Factors	**X**	Learning Support		Professional Development		

E. Other Data Review (Optional): Describe any significant findings based on other data regarding your program. Possible sources of relevant information might include, but are not limited to, the following:

- **Data generated by your program**
- **CEMC Data**
- **Labor Market Data**

The Labor Market data show that, the demand for Bioinformatics Technicians in the Bay region is estimated to be between 34 and 41 positions annually and about 7 positions annually in the East Bay sub-region (Alameda and Contra Costa Counties). There is one college in the Bay region offering a certificate in Biostatistics that includes a class in Bioinformatics, which may prepare students for employment as Bioinformatics Technicians. This data encouraged us to create a Computational Biology degree and certificate, which includes a new Bioinformatics course.

Mark an X before each area that is addressed in your response.					Definitions of terms: https://goo.gl/23jrxt		
X	Community Partnerships/Outreach		Facilities, Supplies and Equipment, Software		LPC Planning Priorities		Services to Students
X	Curriculum		Financial/Budgetary		LPC Collaborations		SLO/SAO Process
	Enrollment Management		Human Resources		Pedagogy		Technology Use
	External Factors		Learning Support		Professional Development		

F. Impacts to Students (Optional): Discuss at least one example of how students have been impacted by the work of your program since the last Program Review Update (only if you did not already answer this in Questions B-E).

We currently have two paid student assistants working with our laboratory staff. Each student works about five hours a week, under the supervision of laboratory technicians. The students gain hand-on experience by working side-by-side with our laboratory technicians. They are able to apply, and build upon, the concepts and techniques learned in their classes. These opportunities develop skills that are useful for these students in their continuing education and in their careers.

Mark an X before each area that is addressed in your response.				Definitions of terms: https://goo.gl/23jrxt			
	Community Partnerships/Outreach		Facilities, Supplies and Equipment, Software		LPC Planning Priorities		Services to Students
	Curriculum		Financial/Budgetary		LPC Collaborations		SLO/SAO Process
	Enrollment Management		Human Resources		Pedagogy		Technology Use
	External Factors		Learning Support		Professional Development		

G. Obstacles: What obstacles has your program faced in achieving plans and goals?

1. As discussed previously, the largest obstacle that our program is facing is the urgent need is for more facilities due to the growth of the program.

a. We continue to add classes to the schedule to meet students' needs, which results in impacted lab and lecture space and increased scheduling challenges.

b. The Biology Learning Center (BLC) is heavily used by a variety of classes and is continually impacted. Adding more sections magnifies this impaction.

c. Due to an increase in sections, Honors and Independent Study Projects have increased student use of the Microbiology workroom. This impairs the ability of the Microbiology students to effectively use the space and complete their course objectives.

d. We do not have a permanent location to store the food used in many biology labs (Bio 1A, Bio 7B, Bio 1B, Bio 30, Bio 50). We have used room 1813 temporarily but this is not a long-term fix.

e. The Biology and Chemistry departments hold lab courses in two different buildings, and have both increased their offerings and therefore the workload of prep staff. This results in times when one of the buildings has low technician coverage, especially in evenings and Summer.

2. The general budget for supplies doesn't match the growth of our course offerings or the industry-level technology used in our curriculum.

a. Many Biotechnology related activities require reagents that expire yearly and aren't included in the current supply budget. Many of our course-level and program-level SLOs reflect student's competency in lab skills and using this industry-level equipment.

b. We still do not have a budget for Honors and Independent Study Projects, creating an inequity of opportunity.

c. We do not yet have institutionalized, reliable funding to accomplish goals each semester, and are

required to constantly pursue stop-gap measures. Faculty time is spent seeking funding each semester to fulfill curriculum goals, when it should be put to other uses. Our department is currently exploring adding a Biotechnology course(s), degree or certificate to the program, however it is difficult to imagine this manifesting when we lack sufficient and sustainable funding for our current programs.

3. Biology and Physics faculty are collaborating to develop an Environmental Studies and/or Environmental Science program with no dedicated faculty lead to coordinate efforts. This is a slow-going process by nature, as it is an interdisciplinary field, and requires a significant amount of time and energy.

We are currently developing an Environmental Studies certificate for a wildlife technician. This requires the development of a new field biology course, which involves researching, and visiting field sites, obtaining appropriate permitting, creating an Advisory Board, and updating the Bio 40 course outline to meet C-ID.

4. We need Human Resources to recruit and maintain a pool of adjuncts instructor applications. This is especially important as we expand our course offerings in order to avoid last minute interviewing and hiring.

5. The 2 CAH of reassigned time for the department coordinator is insufficient for the amount of oversight and leadership required of this position. Our program is currently the third largest on campus with many specialized needs.

6. Many of our laboratory courses, including lab activities and lab manuals need reviewing and reevaluation to improve student learning, ideally with more inquiry-based instruction. This takes significant time from full-time faculty, collaboration with adjunct faculty, and lab technicians.

7. We still do not have an efficient system in place for students to check out supplies such as insect nets and binoculars. An electronic check-out system would help students keep track of due dates, and avoid late fees and holds on registration.

8. We do not yet have a way to buy and stock Alka-seltzer, which is used as a backup mechanism when the new Carbon Dioxide delivery system for anesthetizing flies experiences outages. We envision this will involve collaboration with the Dean, lead lab tech, and Bio 1C instructor.

9. We have limited funds through LPC Professional Development for faculty to attend conferences and other professional development programs. These events keep faulty abreast of rapidly changing knowledge in a variety of biological fields, as well as teaching methodologies and best practices in the STEM courses at community colleges. There is often inadequate reimbursement for registration and travel costs (mileage, airfare, hotel, etc.), and we do not have paid substitutes to ensure our students do not miss out on instruction during our absence. .

10. We have had a number of laboratory technician positions vacated in the past two years: four technicians vacated past positions and one additional lab staff member retired. This constant turnover of

laboratory staff has made it challenging to keep up with the demanding work behind the scenes of all of our biology and chemistry laboratories. Our techs have managed to keep things running, but because they are constantly training new staff members they have significantly less time to spearhead any new initiatives, or to improve our current laboratories. If these positions were full-time and 12 month positions we would most likely see much greater recruitment and retention rates.

11. Our current laboratory safety training for faculty and staff is not sufficient. We currently require an online safety course, but if we had funding to pay full-time faculty, part-time faculty, and staff we could provide face-to-face safety training.

Mark an X before each area that is addressed in your response.				Definitions of terms: https://goo.gl/23jrxt			
	Community Partnerships/Outreach	**X**	Facilities, Supplies and Equipment, Software	**X**	LPC Planning Priorities	**X**	Services to Students
X	Curriculum	**X**	Financial/Budgetary	**X**	LPC Collaborations		SLO/SAO Process
	Enrollment Management	**X**	Human Resources		Pedagogy		Technology Use
	External Factors		Learning Support		Professional Development		

H. Short Term Planning: What are your most important plans (either new or continuing) for next year? Describe plans starting now and continuing through AY 2018-19.

1) Planning for a new Science Building is our primary short and long term goal. We are in the preliminary stages of the Facilities Master Plan.

2) We are submitting a Faculty Position Request for a new faculty member in the Allied Health area. Despite recent full-time hires, the department's continued growth of sections has resulted in a low full-time to part-time faculty ratio.

3) We plan to work with the lead lab technician and Dean to assess that our supply budget is able to fund the expenses of adding sections each semester.

4) We would like to explore developing a Bio 50 hybrid course.

5) We plan to continue research, and possible development of, an Environmental Science class and degree

6) We plan to research and develop an "on-boarding" program for newly hired adjunct faculty.

Mark an X before each area that is addressed in your response.				Definitions of terms: https://goo.gl/23jrxt			
	Community Partnerships/Outreach	**X**	Facilities, Supplies and Equipment, Software		LPC Planning Priorities		Services to Students
X	Curriculum	**X**	Financial/Budgetary	**X**	LPC Collaborations		SLO/SAO Process
	Enrollment Management	**X**	Human Resources		Pedagogy		Technology Use
	External Factors		Learning Support		Professional Development		

I. Long Term Planning (Optional): Please detail any long-term plans for the next 3-5 years. (Only if you have significant plans, such as implementation of a grant project, creation of long-term initiatives including those using restricted funds such as Equity or SSSP, construction and outfitting of a new building).

1) Planning the new Science Building is our primary short and long term goal. We are in the preliminary stages now involving the Facilities Master Plan.

2) We project the need to hire full-time faculty in Biotechnology to help develop a Biotechnology program and a new full-time faculty in the Biology majors area.

3) We expect to develop more certificates, perhaps in areas of wildlife technician, phlebotomist, and clinical lab scientist.

4) We expect to hire more lab technicians as we continue to add more sections and especially night classes to the schedule.

Mark an X before to each area that is addressed in your response.				Definitions of terms: https://goo.gl/23jrxt			
	Community Partnerships/Outreach	**X**	Facilities, Supplies and Equipment, Software		LPC Planning Priorities		Services to Students
X	Curriculum		Financial/Budgetary		LPC Collaborations		SLO/SAO Process
	Enrollment Management	**X**	Human Resources		Pedagogy		Technology Use
	External Factors		Learning Support		Professional Development		

Section Two: Current Topics (Required for All Programs)

A. Educational Master Plan: A list of goals and strategies appears on page ii of the Educational Master Plan, which can be accessed here: (https://goo.gl/1AefkX). If applicable, describe how your program's upcoming plans reflect the goals described in the college's Educational Master Plan (your plans are described in Section 1, Questions H-I, or on a previous program review if you did not complete this year's Program Snapshot).

Educational Master Plan: Ensure excellence in student learning by collaborating with community partners to provide educational opportunities that best serve the needs of our students and our community.

Dept goal:
We expect to develop more certificates, perhaps in areas of wildlife technician, phlebotomist, and clinical lab scientist. This involves working with community members and local businesses.

B. Program-Set Standard (Instructional Programs Only): Did your program meet its program-set standard for successful course completion? _X__yes _____no
(Note: this information will be available in August 2018)

If your program did not meet your program-set standard, discuss possible reasons and how this may affect program planning or resource requests.

C. Facilities: Do you have any facilities needs that are currently unmet? If yes, please describe.

Our program is growing rapidly, and thus we have a major need for more and improved facilities. We have increased the number of sections offered for many classes and therefore the student headcount, so more lecture rooms, biology labs, and learning centers are needed. We are currently involved in the planning of a new Biology building in the Facilities Master Plan.

Particularly, the biology learning center (BLC) is very limited on space. We expect the BLC to be further impacted this semester with additional sections of Bio 1B and Bio 7A. The BLC requires faculty oversight but, due to the overcrowding, there is not enough space for many faculty to effectively hold office hours in the BLC.

Due to an increase in sections, honor's projects, and independent studies there is increased

student use of the Microbiology workroom. This impacts the ability of the Microbiology students to effectively use the space and complete their course objectives.

We continue to have limited space for the Anatomy students to use anatomical models outside of class. The students and the anatomical models take up space in the BLC and contribute to overcrowding. The anatomy models are large and require our highly trained prep staff to continually stop their work to bring models in and out of the BLC. A new dedicated space for anatomy students could house the models, freeing up much needed space in the current BLC and minimizing the interruptions to the prep staff. Extra time with the models in the BLC is correlated with student success, as the anatomy students earning A's and B's are the same students using the BLC to study.

Food used in many labs (Bio 1A, Bio 7B, Bio 1B, Bio 30, Bio 50) is temporarily stored in room 1813 but needs a permanent location.

D. Professional Development

Section 87153 of California Education Code specifies the type of Professional Development activities that may be funded by the Community College Professional Development Program. You can review these activities here: https://goo.gl/w8sqBM

D1. Summarize the aspects of professional development that have been working well for your program. This might include the process of obtaining funds, the types of training your program members have been attending, etc.

The increased funding available this year allowed some of our faculty to attend professional development events (e.g. workshops, regional scientific meetings etc.). Attending these workshops and meetings is important for keeping up with industry standards and current scientific knowledge.

.

D2. Summarize any needs, desires and visions your program has regarding professional development, as well as any challenges.

Funding awards are not large enough to defray the costs of attended professional development programs outside our local region. This limits the opportunities available to faculty.

Some of the forms for reimbursement are outdated. These forms have instructions that no longer reflect the current reimbursement process (e.g. asking for forms in triplicate when that is not required). The reimbursement process should be clear so that faculty can be reimbursed quickly and efficiently.

A major barrier for faculty to attend workshops and conferences is the lack of paid substitutes. Faculty have had to use sick days when no other faculty can cover their classes.

We would like more support to attend professional development activities related to such topics as inquiry based learning and mentoring students.

E. Program Suggestions (optional): What questions or suggestions do you have regarding the Program Review forms or process?

Section Three: SLOs/SAOs (Required for All Programs)

A. In the box below, copy and paste your "Plans for Analysis of SLO/SAO Data" from last year's Program Review. This plan can be found in the 2017 Program Review Section 1 Question L.

(If discussing multiple PSLO/SAOs copy the box below as needed.)

Circle One: CSLO **PSLO** SAO
Course, Program Name, or Student Service Area: **AA Biology: Allied Health**
Text of CSLO/**PSLO**/SAO: Upon successful completion of an AA in Biology: Allied Health, students are able to explain and apply the basic processes of homeostasis in humans from the cellular to the organismal level.
If you plan to analyze a PSLO, identify the courses that are mapped to the PSLO. BIO 7a, 7b, 7c

B. Below, report on your program's progress on the plan described in Question (A) above.

Text of CSLO/PSLO/SAO: Upon successful completion of an AA in Biology: Allied Health, students are able to explain and apply the basic processes of homeostasis in humans from the cellular to the organismal level.
SLOs: Assessment data collected from ___3 (7a,7b); 1 (7c)_____ sections over ___4_____ semesters. (F16,Sp17, F17, Sp18). SAOs: Assessment data collected from _____ students over _____ semesters.
Describe the quantitative or qualitative results: In Bio 7a (Human Anatomy), there is a flat distribution between A's, B's, and C's with an average of about 16% of the students below average or failing. In Bio 7b (Human Physiology), there is a small curve with an average of 23.3% earning A's, 31% earning B's, and 25.6% earning C's. An average of 19.6% of the students below average or failing. In Bio 7c (Microbiology), data was collected from two semesters in only one section with a small sample size (n=19, n=14).

Discuss and reflect upon student achievement for this CSLO/PSLO/SAO. Discuss any actions taken so far (and results, if known) and your action plan for the future: We are going to collect more assessment data in Bio 7c in fall 18. We need at least 2-3 semesters of data.
What changes in student achievement are evident across the semesters you analyzed? What are some possible explanations for these changes? There has been no significant change over the past three years of data.
DO you plan to continue tracking this SLO in the next year? Explain. We will collect data on Bio 7c.

C. Planning: What are your future plans (either new or continuing) for SLO/SAO analysis for next year? Identify the PSLOs, CSLOs, or SAOs that your program plans to focus on the upcoming year with subsequent analysis (next year's program review). (Copy the box below as needed.)

Circle One: CSLO PSLO SAO
Course, Program Name, or Student Service Area: **BIO 30 lab CSLO**
Text of **CSLO**/PSLO/SAO: Upon completion of BIO 30, students should be able to conduct guided experiments in the laboratory and interpret the results of these investigations, individually and/or in collaboration with other students
If you plan to analyze a PSLO, identify the courses that are mapped to the PSLO.

D. SLO/SAO Suggestions (optional): What questions or suggestions do you have regarding SLO/SAO planning, assessment and reporting?

Section Four: Curriculum Review
(Programs with Courses Only)

The following questions ask you to review your program's curriculum. To see the last outline revision date and revision due date:

1. Log in to CurricUNET
2. Select "Course Outline Report" under "Reports/Interfaces"
3. Select the report as an Excel file or as HTML

Curriculum Updates

A. Title V Updates: Are any of your courses requiring an update to stay within the 5 year cycle? List courses needing updates below.

BIO 1B	General Zoology
BIO 20	Contemporary Human Biology
BIO 30	Intro to College Biology
BIO 40	Humans and the Environment
BIO 50	Anatomy and Physiology
BIO 60	Marine Biology
BIO 7B	Human Physiology

B. Degree/Certificate Updates: Are any degrees/certificates requiring an update to do changes to courses (title, units) or addition/deactivation of courses? List needed changes below.

C. DE Courses/Degrees/Certificates: Detail your department's plans, if any, for adding DE courses, degrees, and/or certificates. For new DE degrees and/or certificates (those offered completely online), please include a brief rationale as to why the degree/certificate will be offered online.

N/A