

INSTRUCTIONAL COMPREHENSIVE PROGRAM PLANNING AND REVIEW (CPR) FOR 2018

Only to be completed by those programs scheduled for the year according to the institutional comprehensive planning cycle for instructional programs (i.e., every four years for CTE programs and five years for all other instructional programs), which is produced by the Office of Academic Affairs. Faculty should meet with their dean prior to beginning this process. Training is available to support faculty completing this work.

Cluster: MSNKA

Program: Biology

Current Academic Year: 2017-2018

Last Academic Year CPR Completed: 2013-2014

Current Date: 1/2/2018

NARRATIVE: INSTRUCTIONAL CPR

Please use the following narrative outline:

I. GENERAL PROGRAM INFORMATION

A. Program mission (optional)

The mission of the Division of Biological Sciences is to offer courses in biology that satisfy requirements of 4-year Biology Transfer students, Biology Associate Degree Transfer (ADT) students, Allied Health prerequisite students and General Education requirements.

B. Brief history of the program

The Division of Biological Sciences at Cuesta College began in 1963 with only one full-time biology instructor. The classes were conducted in the old barracks of Camp San Luis Obispo. Biology moved to the newly completed science buildings of the current SLO campus in 1974. There were 4 full-time biology instructors at that time. Biology offered classes at the newly constructed Paso Robles (NCC) campus in the early 1990's. During the intervening years courses were offered at Templeton High School, Paso Robles High School, and Arroyo Grande High school. Biology continues to offer one course (Human Biology) at the Arroyo Grande campus (SCC). There are currently 8 full-time faculty and 13 part-time faculty.

C. Include significant changes/improvements since the last Program Review

Biology added one new Full-time faculty and 5 new Part-time faculty. Three part-time faculty have resigned. Nancy Mann has announced her retirement, effective June 2018.

Biology created Bio 210M (Marine Microbiology) and several Special Courses (Bio 240, Bio 241 & Bio 242). No courses were removed although Bio 224 (Principles of Natural History) and Bio 210I (Island Biology) have not been taught since the last CPR.

D. List current faculty, including part-time faculty

Fulltime Instructors:	Ron Ruppert	Dr. Laurie McConnico
	Nancy Mann	Dr. Silvio Favoreto
	Dr. John Veres	Dr. Elizabeth Lobo
	Dr. Ann Maliszewski	Dr. Christopher Machado

Parttime Instructors:	Deborah Barker	Lisa Schicker
	Dr. Dave Bowlus	Megan O'Neill
	Azalia Dillard	Dr. Robert Schroeter
	Jane Donaldson	Robb Tibstra
	Steve Hendricks	Stephanie Mutz
	Dave Kirkhart	Emily Resner
	Dr. Derrick Lavoie	Joshua Mier

Laboratory Technicians: Heather Price (SLO) April Anderson (NCC)

Building Assistant: Cathie Babb

E. Describe how the Program Review was conducted and who was involved

Biology began the process of examining our Unit Plan during the division meeting in August 2017. Ron Ruppert created most of this document and a rough draft was worked on during the division meeting in January 2018. A final draft was sent to all Biology faculty and staff in late January and the final version was examined by all faculty and staff in February 2018 before it was submitted to the Dean.

II. PROGRAM SUPPORT OF DISTRICT'S [MISSION STATEMENT](#), [INSTITUTIONAL GOALS](#), [INSTITUTIONAL OBJECTIVES](#), AND/OR [INSTITUTIONAL LEARNING OUTCOMES](#)

- A. Identify how your program addresses or helps to achieve the [District's Mission Statement](#).

Biology courses effectively support students in their efforts to improve foundational skills, earn certificates or associate degrees, and transfer to four-year institutions. Biology courses prepare students to become engaged and informed citizens in our increasingly complex communities and world.

- B. Identify how your program addresses or helps to achieve the [District's Institutional Goals and Objectives](#), and/or operational planning initiatives.

The Biology program offers courses that meet transfer needs for Biology majors and for general education and courses that satisfy the prerequisites for Allied Health programs. A primary institutional goal is to increase the number of students that transfer to 4-year institutions, to increase the number of AS degrees awarded and to increase the number of students completing vocational education degrees. The Biology program helps the institution meet these goals by offering a variety of courses that satisfy these objectives.

- C. Identify how your program helps students achieve [Institutional Learning Outcomes](#).

Biology courses help students achieve institutional learning outcomes #2, Critical Thinking and Communication and #3, Scientific and Environmental Understanding.

III. PROGRAM DATA ANALYSIS AND PROGRAM-SPECIFIC MEASUREMENTS

The data components are hyperlinked below.

[General Enrollment \(Insert Aggregated Data Chart\)](#)

Insert the data chart and explain observed differences between the program and the college.

When examining the chart below it is noted that total enrollment in biology courses fell from 3,059 in 2013 to 2,788 in 2017. This is a decline of nearly 10% over those 5 years. The decline in Biology courses is greater than the decline in overall enrollment over the last 5 years. Over the last 3 years biology enrollment has held steady at around 2,700 students. Most of the decline has been in general education courses for non-major students.

SLOCCCD Program Review Data - Enrollment

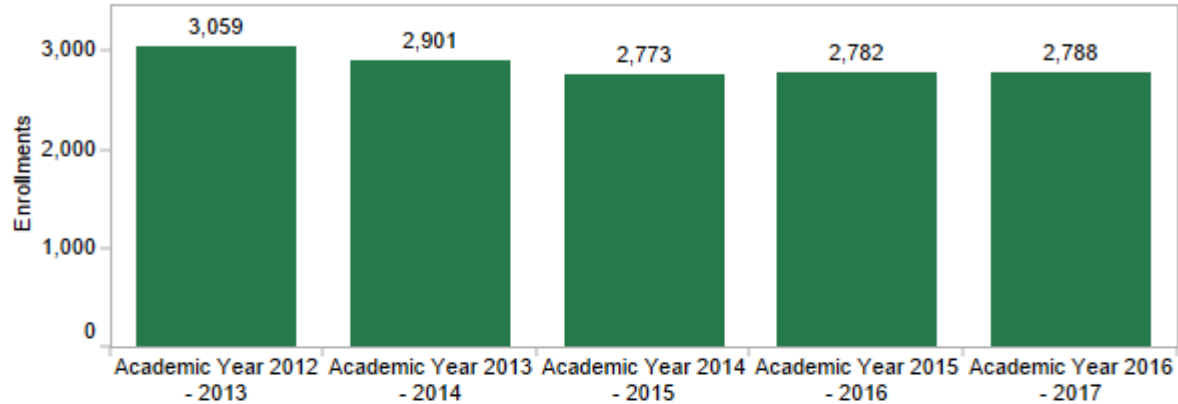
Department:
Biology

Course:
All

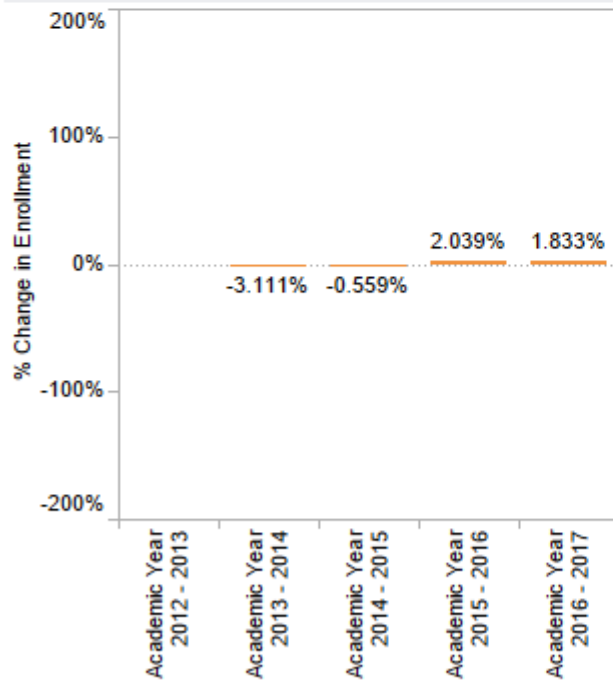
Dual Enrollment:
All

Prison:
All

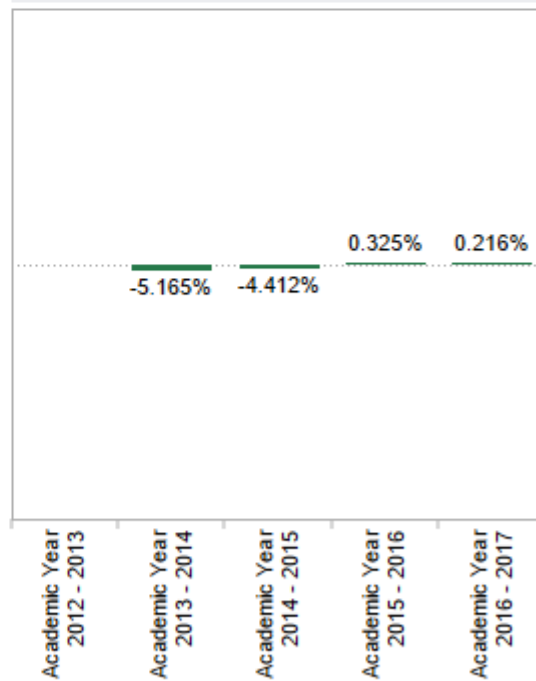
Biology Enrollments



% Change - Overall College Enrollments



% Change - Biology



Enrollment: Duplicated count of students who completed greater than 0 units in positive attendance courses or were present on census for all other accounting methods.

[General Student Demand \(Fill Rate\) \(Insert Aggregated Data Chart\)](#)

Insert the data chart and explain observed differences between the program and the college.

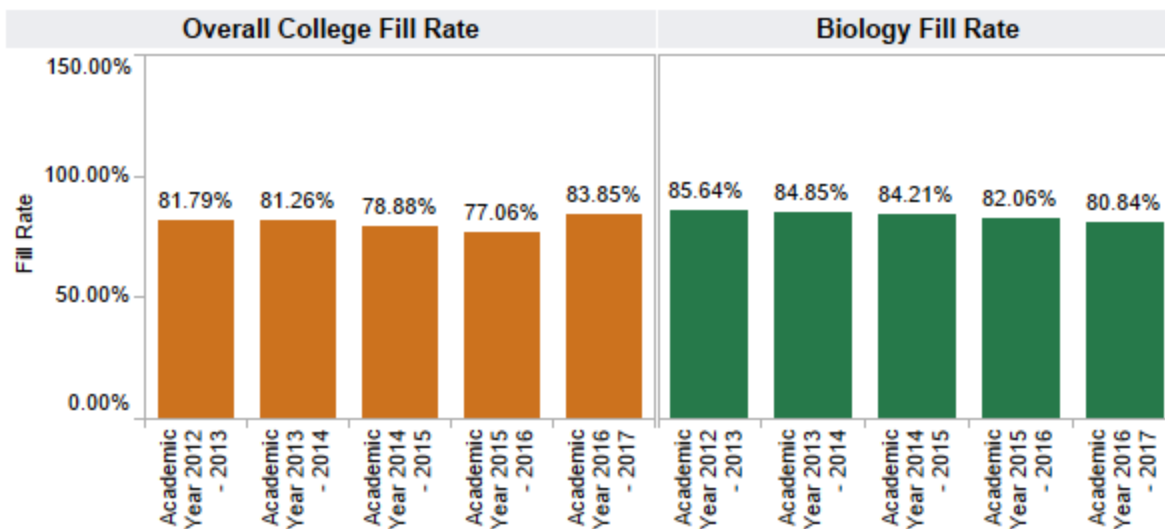
SLOCCCD Program Review Data - Student Demand (Fill Rate)

Department:
Biology

Course:
All

Dual Enrollment:
All

Prison
All



The fill rate in biology courses has declined over the past 5 years. This decline has been mostly in large-lecture (100 student), non-major courses. Biology maintains a high efficiency due to teaching many large-lecture courses. The decline was about 1% over the past one year.

[General Efficiency \(FTES/FTEF\) \(Insert Aggregated Data Chart\)](#)

Insert the data chart and explain observed differences between the program and the college.

SLOCCCD Program Review Data - Efficiency (FTES/FTEF) Disaggregated

Department:
Biology

Course:
All

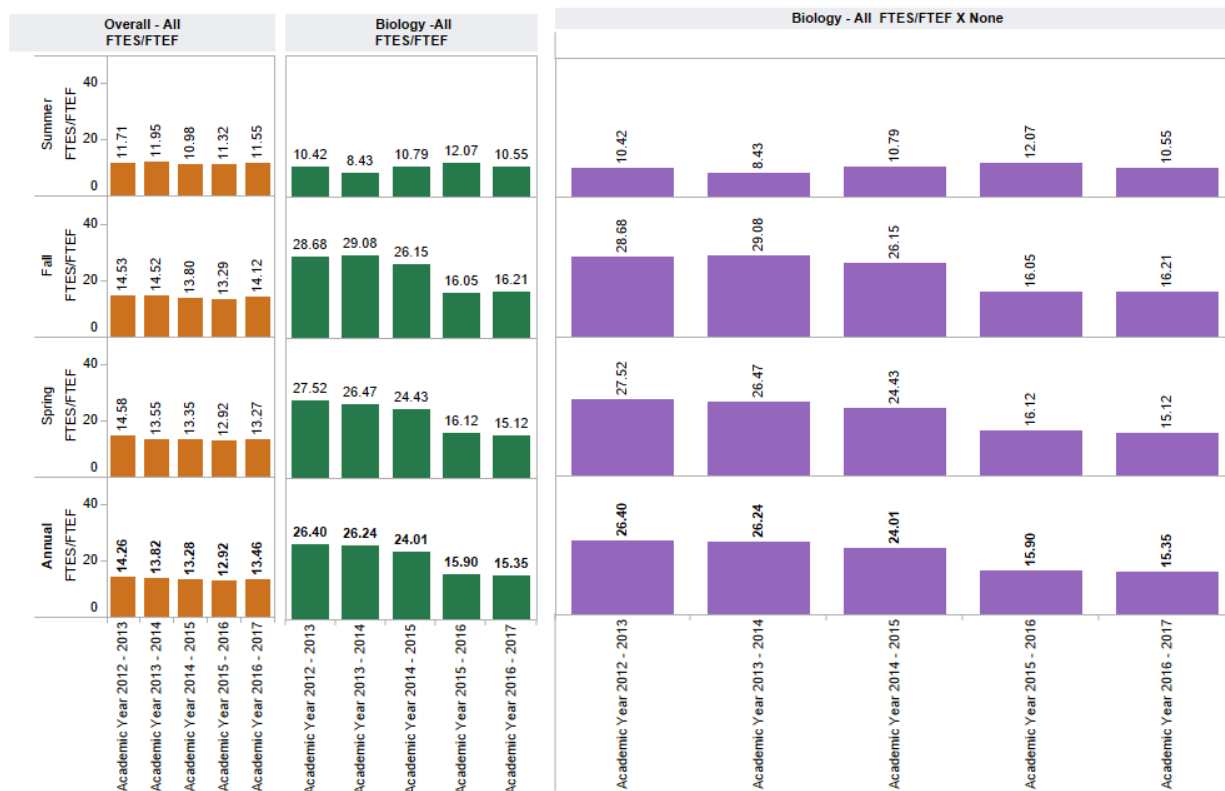
Region:
All

Disaggregate by:
None

Dual Enrollment:
All

Prison:
All

Legend:
■



FTES/FTEF: The ratio of total FTES to Full-Time Equivalent Faculty
(SXD4 Total-Hours/17.5)/XE03 FACULTY-ASSIGNMENT-FTE)

The dramatic decrease in efficiency over the last 5 years is due to a recalculation of Audio-tutorial lab. Apparently AT lab was not factored into the efficiency calculation before Fall 2015. The decline in fill-rate has also contributed to our decrease in efficiency. Since Biology is above the campus goal of 15 FTES/FTEF we hope to as least maintain our current level. We cannot generate students. We are not turning away students from our courses and hope that we can capture any increase in overall enrollment. We also carefully examine low efficiency sections to consider whether we should change the schedule or cancel low-enrollment courses.

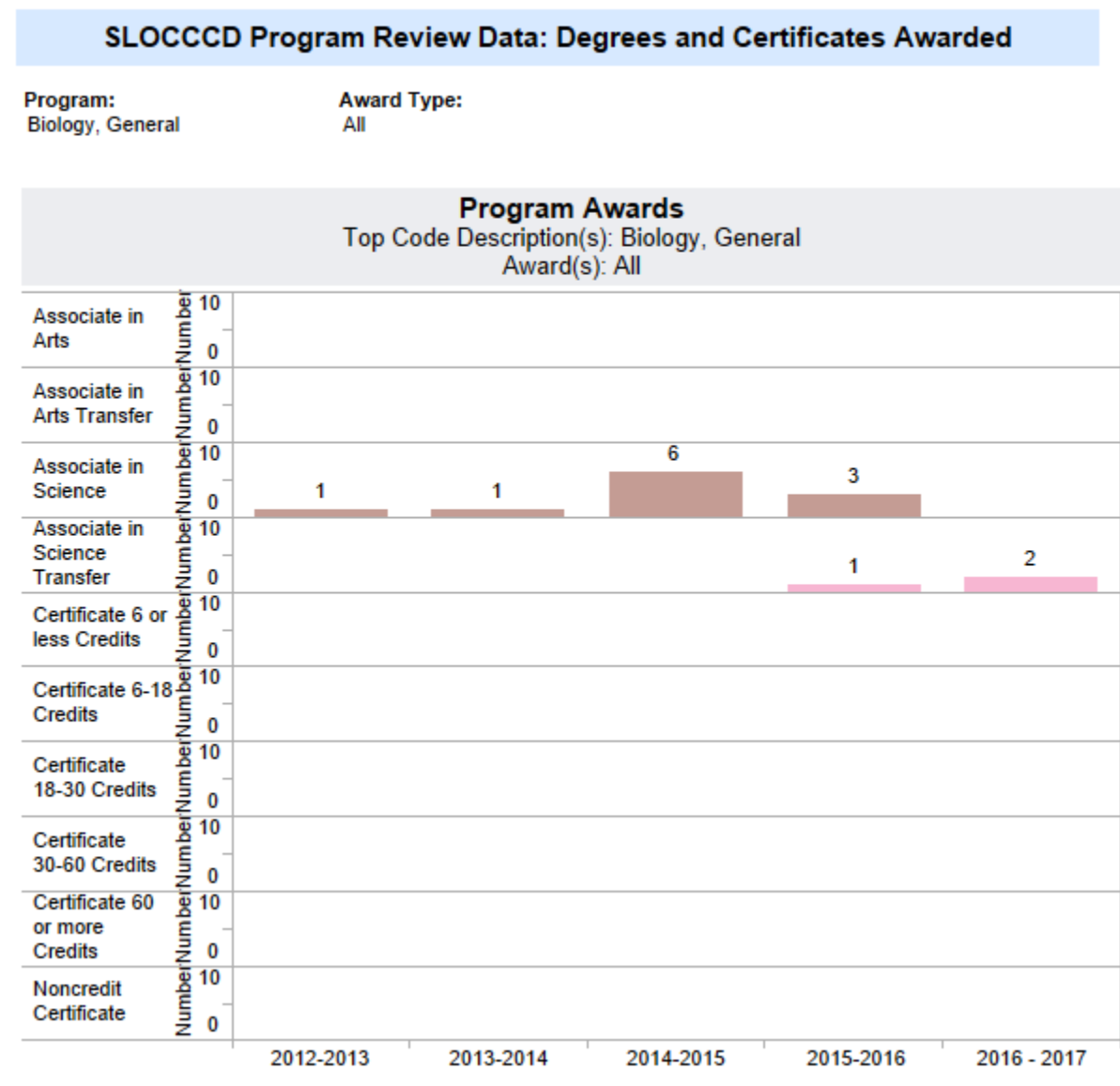
[Student Success—Course Modality \(Insert Data Chart\)](#)

Insert the data chart and explain observed differences between the program and the college.

Biology teaches all courses in the face-to-face modality. Thus there is nothing to discuss in this section.

[Degrees and Certificates Awarded \(Insert Data Chart\)](#)

Insert the data chart and explain observed differences between the program and the college.



Biology awards very few AS degrees. Most students transfer to 4-year institutions without receiving an AS degree in biology.

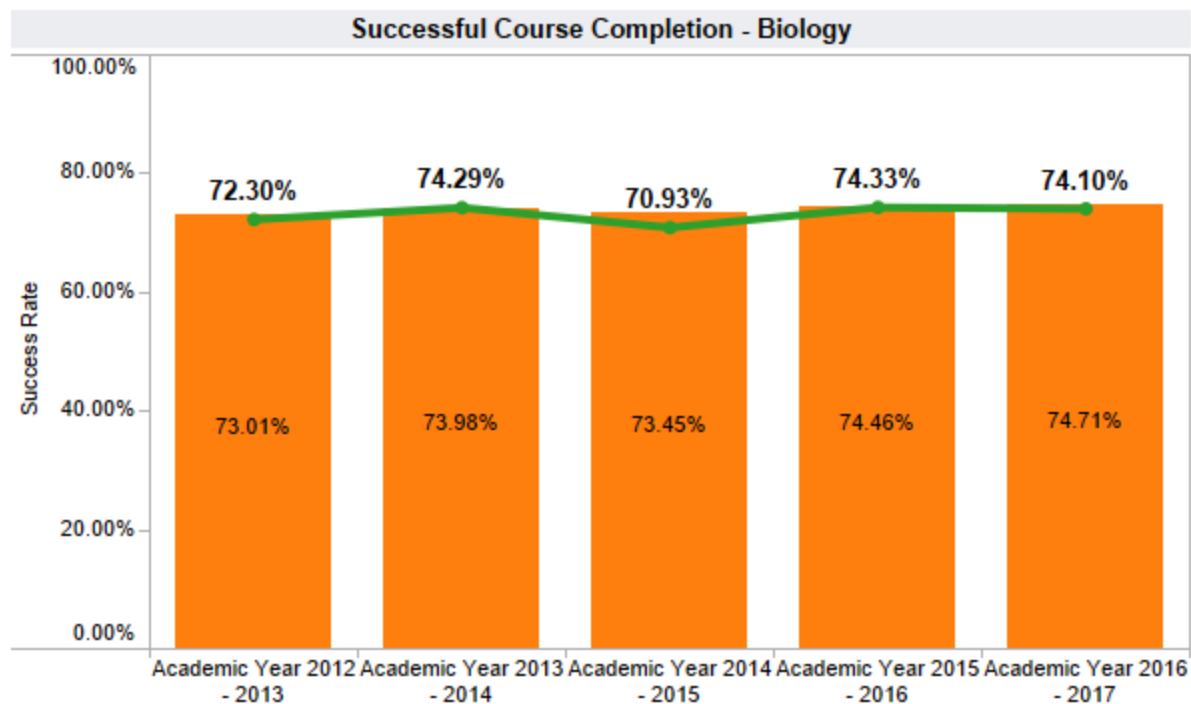
General Student Success – Course Completion (Insert Aggregated Data Chart)

SLOCCCD Program Review Data: Successful Course Completion

Select Department:
Biology

COURSE
All

Legend:
■ Department Success Rate
■ Overall College Success Rate

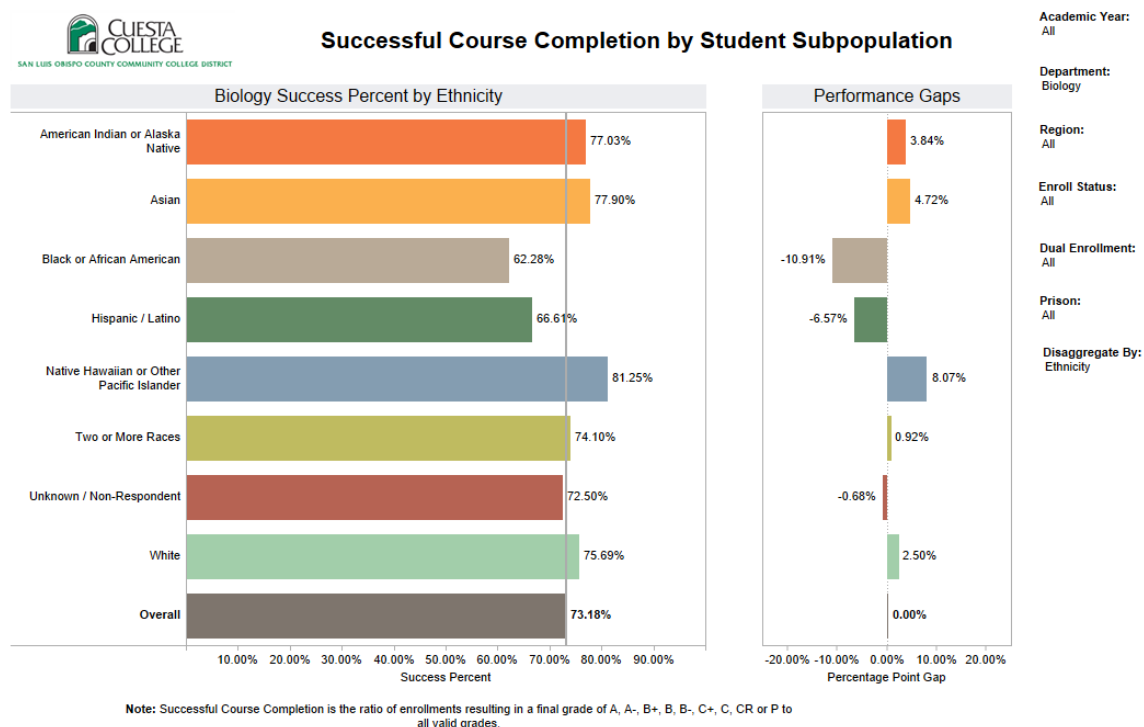


Biology Success Rate Table

	Academic Year 2012 - 2013	Academic Year 2013 - 2014	Academic Year 2014 - 2015	Academic Year 2015 - 2016	Academic Year 2016 - 2017
Department Success..	72.30%	74.29%	70.93%	74.33%	74.10%
Total Enrollments	3,055	2,910	2,773	2,778	2,781

Student success in biology courses has remained steady over the past 5 years. Success in Biology courses is right at the college average. This is somewhat surprising due to the fact that science courses are perceived to be more challenging than non-science courses.

Review the [Disaggregated Student Success](#) charts; include any charts that you will reference. Describe any departmental or pedagogical outcomes that have occurred as a result of programmatic discussion regarding the data presented.



Success in biology courses by students who identify as Latino and African American is significantly lower than success by students of other ethnicity. Biology faculty are interested in participating in programs that help address this disparity.

Faculty in the Biology Department (McConnico and Favoreto) have partnered with colleagues in Physical Science, Engineering and Economics to submit a grant proposal to National Science Foundation (\$300K) that, if funded, will support undergraduate research initiatives at Cuesta College. The core goal of the grant is to improve STEM education for all students, while providing research opportunities at community college. As a Hispanic Serving Institution, we hope to engage with students from traditionally underrepresented groups at Cuesta College to recruit and retain them in STEM fields, particularly Biology.

Additionally, the Biology Department will offer Marine Biology and Lab (Bio 222/222L) in Baja California, Mexico during Summer 2018. This alternate class location will offer students the opportunity to study abroad, affordably, while at community college. Students will learn not only marine biology, but will have the opportunity for Spanish immersion in Mexico. At present, 4 of 17 enrolled participants reflect ethnicities or groups that are traditionally underrepresented, including women, Latinas and those of Central and South American descent.

- Other Relevant Program Data (optional)

Provide and comment on any other data that is relevant to your program such as state or national certification/licensure exam results, employment data, etc. If necessary, describe origin and/or data collection methods used.

N/A

IV. CURRICULUM REVIEW

- A. List all courses and degrees/certificates that have been created, modified, or deactivated (and approved by the Curriculum Committee) since the last CPPR. Complete the [Curriculum Review Template](#) and submit the form within your CPPR.

Bio 201A (General Biology)- Textbooks updated and SLOAs updated to CurricuNet.

Bio 201B (General Biology)- Textbooks updated and SLOAs added to CurricuNet.

Bio 202 (Botany)- Textbooks updated and SLOAs updated to CurricuNet.

Bio 204 (Microbiology)-Textbooks updated and SLOAs added to CurricuNet.

Bio 205 (Anatomy)- Textbooks updated and SLOAs updated to CurricuNet.

Bio 206 (Physiology)- Textbooks updated and SLOAs added to CurricuNet.

Bio 210I (Island Biology)- Course has not been taught in last 5 years.

Bio 210R (Biology of Coast Ranges)- Course activated

Bio 210M (Micro/Marine)- Course created, SLOAs added to CurricuNet.

Bio 211 (Life Science)- Textbooks updated and SLOAs updated to CurricuNet.

Bio 212 (Human Biology)- Textbooks updated and SLOAs added to CurricuNet.

Bio 213 (Genetics in Society)- Textbooks updated and SLOAs updated to CurricuNet.

Bio 216 (Plants and People)- Textbooks updated and SLOAs updated to CurricuNet.

Bio 220 (Environmental Biology)- Textbooks updated and SLOAs added to CurricuNet.

Bio 221 (Ecology)- Textbooks updated and SLOAs updated to CurricuNet.

Bio 222 (Marine Biology)- Textbooks updated and SLOAs updated to CurricuNet.

Bio 224 (Natural History)- Course has not been taught in last 5 years.

Bio 240 (Bio Teaching Assistant)- Course created, SLOAs added to CurricuNet.

Bio 241 (Bio Lab Assistant)- Course created, SLOAs added to CurricuNet.

Bio 242 (Bio Research Assistant)- Course created, SLOAs added to CurricuNet.

- B. Completing the template will provide evidence that the curriculum (including course delivery modalities) has been carefully reviewed during the past five years for currency in teaching practices, compliance with current policies, standards, regulations, and with advisory committee input. The form requires you to include evidence that the following entries on the course outline of record (CurricUNET format) are appropriate and complete:

- Course description
- Student learning outcomes
- Caps

- New DE addendum is complete
- MQDD is complete
- Pre-requisites/co-requisites
- Topics and scope
- Course objectives
- Alignment of topics and scopes, methods of evaluation, and assignments with objectives
- Alignment of SLOs and objectives with approved requirement rubrics (General Education, Diversity, Health, Liberal Arts)
- Textbooks
- CSU/IGETC transfer and AA GE information
- Degree and Certificate information

The template also includes a calendar of a five-year cycle during which all aspects of the course outline of record and program curriculum, including the list above, will be reviewed for currency, quality, and appropriate CurricUNET format.

V. PROGRAM OUTCOMES, ASSESSMENT AND IMPROVEMENTS

- A. Attach or insert the assessment calendar for your program for the next program review cycle.

Biology Assessment calendar

Course	2018	2019	2020	2021	2022	2023	2024	2025
Bio201A	+	+	+	+	+	+	+	+
Bio201B			+			+		
Bio202	+	+	+	+	+	+	+	+
Bio204	+	+	+	+	+	+	+	+
Bio205	+	+	+	+	+	+	+	+
Bio206			+			+		
Bio209C	+			+			+	
Bio209D	+	+	+	+	+	+	+	+
Bio209S	+	+	+	+	+	+	+	+
Bio210M	+			+			+	
Bio210R	Not offered							
Bio211	+	+	+	+	+	+	+	+
Bio212	+	+	+	+	+	+	+	+
Bio212L	+	+	+	+	+	+	+	+
Bio213	+	+	+	+	+	+	+	+
Bio216	+	+	+	+	+	+	+	+
Bio220	+	+	+	+	+	+	+	+
Bio220L		+			+			+
Bio221		+			+			+
Bio222		+			+			+
Bio222L		+			+			+
Bio224	Not offered							

- A. Have you completed all course assessments in eLumen? If no, explain why you were unable to do so during this program review cycle and what plan(s) exist for completing this in the next program review cycle.

eLumen came into use during the mid-point of our assessment calendar so not all courses are completed in eLumen. All courses that are not in eLumen have a valid CPAS document housed on the SLOA web site. All course assessment going forward will be completed in eLumen. Fourteen of the twenty courses offered in biology will be assessed during the spring 2018 semester.

- B. Include the most recent “PLO Summary Map by Course” from eLumen which shows the Course-level SLOs mapped to the Program-level SLOs.

A summary map for Biology has not been prepared in eLumen due to too few courses submitted into eLumen at the date of writing this report.

- C. Highlight changes made at the course or program level that have resulted from SLO assessment.

These data and discussions are found in our CPAS documents located on the SLOA committee drive.

- D. Identify and describe any budget or funding requests that are related to student learning outcome assessment results. If applicable, be sure to include requests in the [Resource Plan Worksheet](#).

Biology is a resource using program. Labs and field studies require supplies and equipment. Lab tech support is essential. We are requesting additional budget money to keep up with inflation as materials get more expensive to purchase and ship.

VI. PROGRAM DEVELOPMENT

Indicate how the program supports efforts to achieve any of the following:

- A. Institutional Goals and Objectives
- B. Institutional Learning Outcomes
- C. Program outcomes

Indicate any anticipated changes in the following areas:

- A. Curriculum and scheduling
- B. Support services to promote success, persistence and retention
- C. Facilities needs
- D. Staffing needs/projections

Lastly, address any changes in strategy in response to the predicted budget and FTES target for the next program review cycle.

The Biology program will continue to present courses that allow students to transfer to 4-year institutions and to enter vocational programs such as in nursing and allied-health. We will meet the student demand for our courses as measured by the degree to which students are able to register for our courses. We will use fill rate, percent fill, and length of wait lists to measure this objective. We will consider cancelling (or not scheduling) sections that have a history of low enrollment. Sequence courses will be preserved as often as possible. Courses with only one section will be preserved if warranted.

Biology anticipates the need for at least one additional full-time faculty due to the retirement of Nancy Mann, effective June 2018. Hiring a new, full-time faculty with expertise in environmental biology is also a goal.

Our current lecture classroom needs have been met with the opening of the new instructional building on the SLO campus. This has allowed us to use room 2205 and 2606 as additional classroom space. However, we need more lab space and we would like to add facilities on the SLO campus to house a human cadaver.

VII. END NOTES

If applicable, you may attach additional documents or information, such as awards, grants, letters, samples, lists of students working in the field, etc.

VIII. After completing and submitting this document, please complete the [Overall Program Strength and Ongoing Viability Assessment](#) with your Dean before May 15, 2018.

SIGNATURE PAGE

Faculty, Director(s), Manager(s), and/or Staff Associated with the Program

Instructional Programs: All full-time faculty in the program must sign this form. If needed, provide an extra signature line for each additional full-time faculty member in the program. If there is no full-time faculty associated with the program, then the part-time faculty in the program should sign. If applicable, please indicate lead faculty member for program after printing his/her name.

Student Services and Administrative Services Programs: All full-time director(s), managers, faculty and/or classified staff in the program must sign this form. (More signature lines may be added as needed.)

Division Chair/Director Name	Signature	Date
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Name	Signature	Date
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Name	Signature	Date
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Name	Signature	Date
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Name	Signature	Date
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Name	Signature	Date
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Name	Signature	Date
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SUPPLEMENTAL DOCUMENTS

FACULTY HIRING PRIORITIZATION INFORMATION (IF APPLICABLE)

If your program requested a faculty position for consideration, please attach or embed the following worksheets that were presented to the College Council. The guidelines for faculty prioritization can be found here:

https://cuestacollege.sharepoint.com/Committees/College%20Council/Committee%20Documents/REVISED_Prioritization_Process_Handbook_9_2016.pdf#search=faculty%20prioritization%20handbook

APPLICABLE SIGNATURES:

Vice President/Dean

Date

Division Chair/Director/Designee

Date

Other (when applicable)

Date

The above-signed individuals have read and discussed this review. The Director/Coordinator, Faculty, and staff in the program involved in the preparation of the CPPR acknowledge the receipt of a copy of the Vice President/Dean's narrative analysis. The signatures do not necessarily signify agreement.

OPTIONAL SURVEY

Please take 15 minutes to complete the IPPR Survey. Your assessment will serve to help us make the form and process better.

Thanks,

The IPPR Committee

Survey Link: <https://www.surveymonkey.com/r/J79W8GW>