

## 2022 INSTRUCTIONAL ANNUAL PROGRAM PLANNING WORKSHEET

CURRENT YEAR: 2021

PROGRAM: BIOLOGY

CLUSTER: SCIENCE & NURSING

LAST YEAR CPPR COMPLETED: 2020

NEXT SCHEDULED CPPR: 2025

CURRENT DATE: 2/1/2022

The Annual Program Planning Worksheet (APPW) is the process for:

- reviewing, analyzing and assessing programs on an annual basis
- documenting relevant program changes, trends, and plans for the upcoming year
- identifying program needs, if any, that will become part of the program's [resource plan](#)
- highlighting specific program accomplishments and updates since last year's APPW
- tracking progress on a Program Sustainability Plan if established previously

**Note:** Degrees and/or certificates for the *same* program *may be consolidated* into one APPW.

This APPW encompasses the following degrees and/or certificates:

Biology AS-T

### *General Program Update*

Describe significant changes, if any, to program mission, purpose or direction. *If there are not any, indicate: NONE.*

NONE

### *Program Sustainability Plan Update*

Was a Program Sustainability Plan established in your program's most recent Comprehensive Program Plan and Review?

Yes  If yes, please complete the Program Sustainability Plan Progress Report below.

No  If no, you do not need to complete a Progress Report.

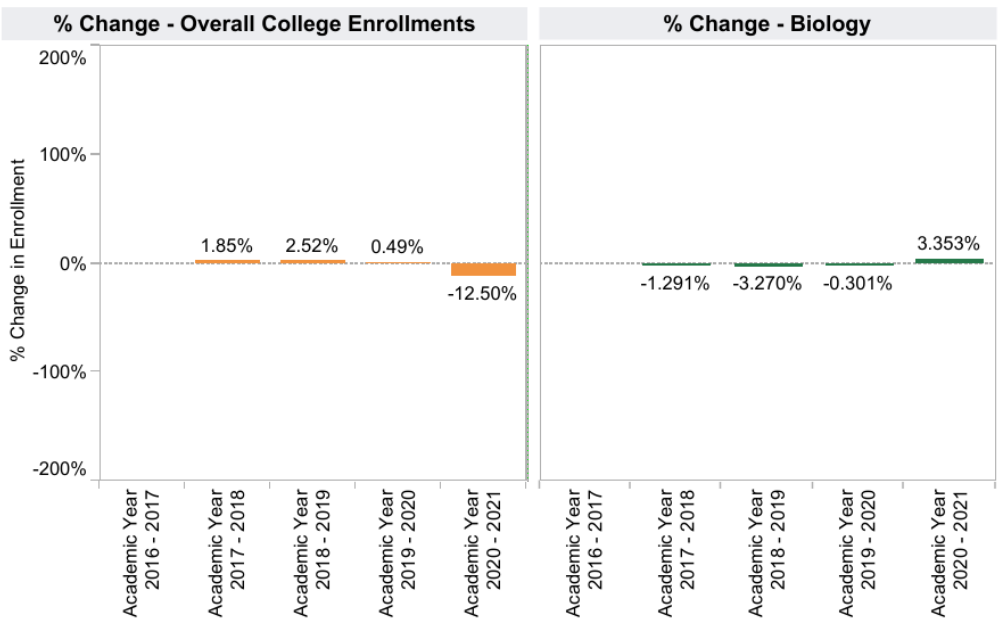
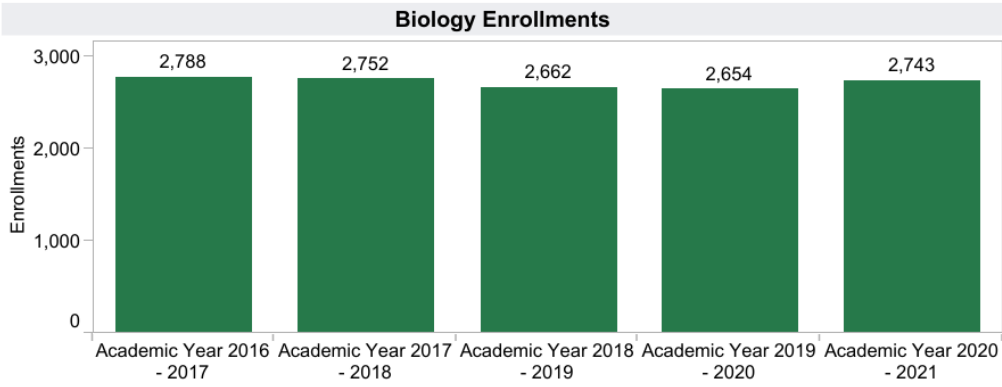
If you selected yes, please complete the Program Sustainability Plan Progress Report below after you complete the Data Analysis section. That data collection and analysis will help you to update, if necessary, your Program Sustainability Plan.

### *Data Analysis and Program-Specific Measurements*

Your responses to the prompts for the data elements below should be for the entire program. If this APPW is for multiple degrees and/or certificates, then you MAY want to comment on each degree and/or certificate or discuss them holistically for the entire program being sure to highlight relevant trends for particular degrees and/or certificates if necessary. Responses in this document need only reference the most recent year's available data.

#### **General Enrollment**

*When examining the chart below it is noted that total enrollment in biology courses has held steady over the past 5 years. In 2021 biology back up to the pre-COVID enrollment level. This is remarkable since the overall campus enrollment has fallen more than 10% over that same period.*

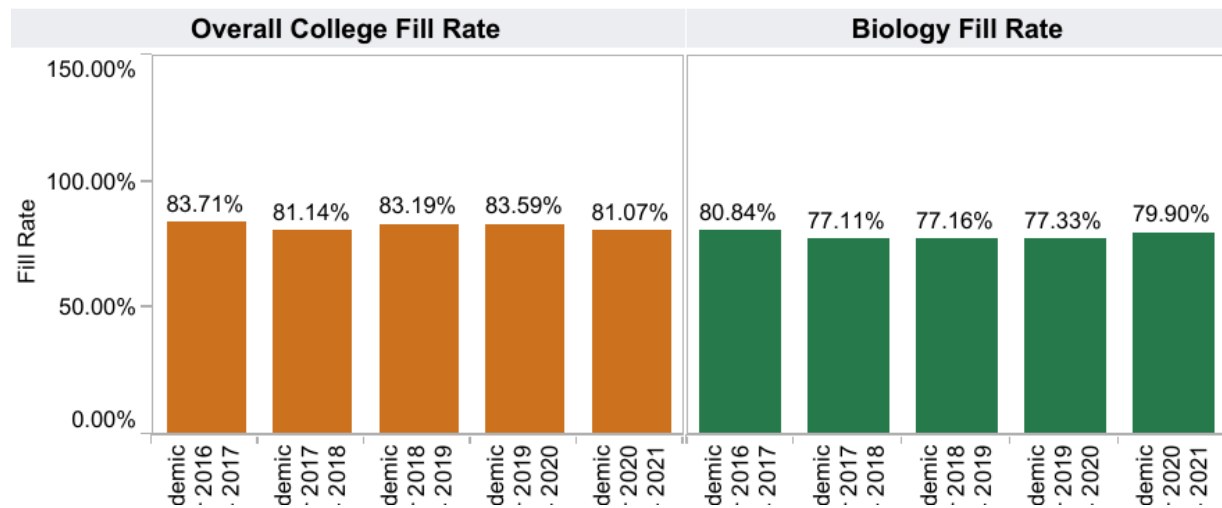


## General Student Demand (Fill Rate)

*By examining the chart below, one can see that the fill rate in biology courses has held steady over the past 5 years. Fill rate is clouded in Biology due to the fact that we teach so many large lecture sections. For example, a class of 75 students would be considered below our average fill rate and below the college fill rate. Yet a class of 75 is great for the college efficiency. Looking just at fill rate is meaningless unless one also examines the efficiency of the program. Biology maintains a high efficiency due to teaching many large-lecture courses.*

### LOCCCD Program Review Data - Student Demand (Fill Rate)

Department: Biology      Course: All      Dual Enrollment: All      Prison: All

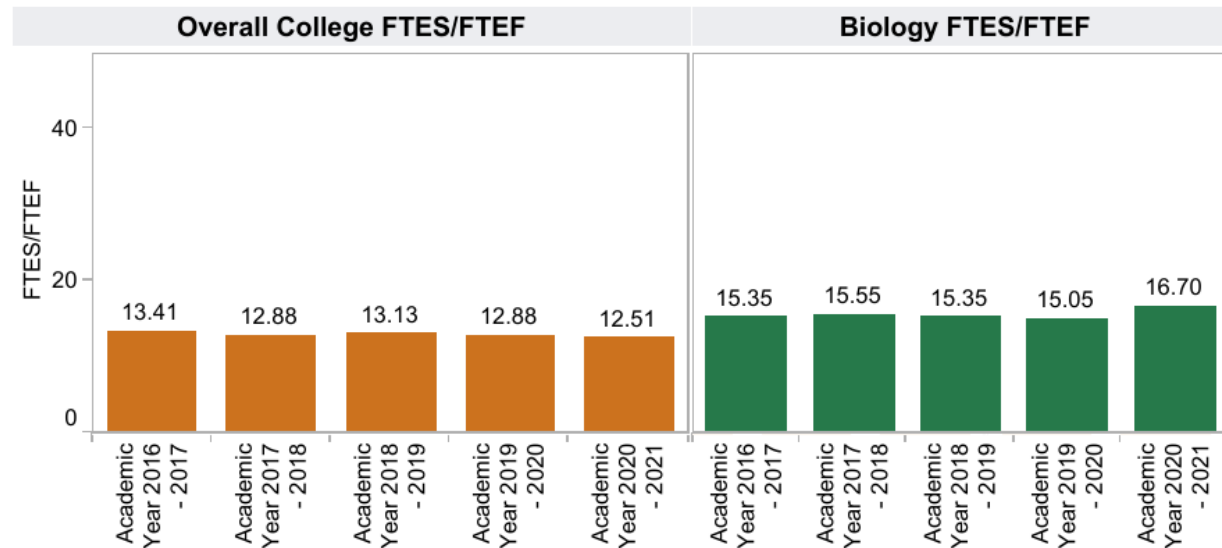


General Efficiency (FTES/FTEF)

*By examining the chart below one can see that Biology has held steady and even increased in efficiency over the past 5 years while the campus as a whole has declined. Our high efficiency is due to the many large lecture sections that we teach. We cannot magically generate students. We are not turning away students from our courses and hope that we can capture any increase in overall enrollment by adding students to the large sections. We also carefully examine low efficiency sections to consider whether we should change the schedule or cancel low-enrollment courses to improve our efficiency. The exception to this is in our field-studies courses that operate best when enrollment is lower. We appreciate that administrators support this plan.*

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

**Department:** Biology                      **Course:** All                      **Dual Enrollment:** All                      **Prison:** All



General Student Success – Course Completion

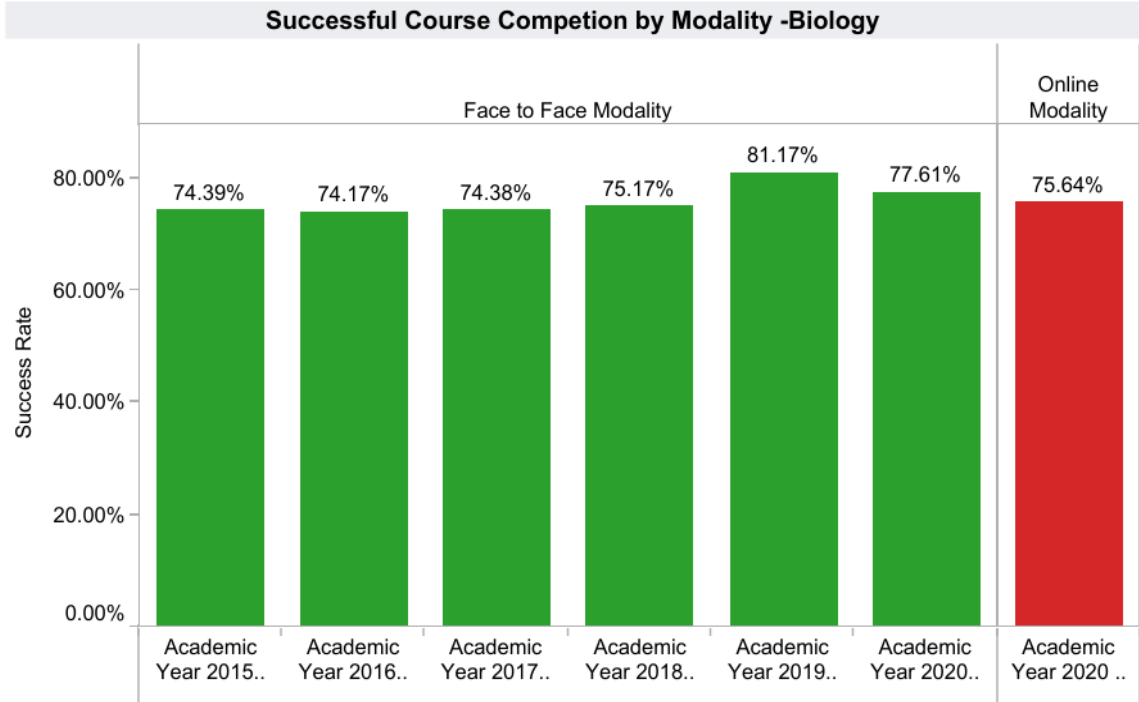
As one examines the chart below one can see that student success in biology courses has remained steady over the past 5 years. As we switched to online courses in Spring 2020 due to Covid19 the student success rate increased at the same rate as the college student success rate (data shown in the second chart below). This may have been due to the fact that students were allowed to choose to withdraw from courses at a much later date without it appearing on their transcripts. Success in Biology courses is right at the college average for each of the past 5 years. This is somewhat surprising due to the fact that science courses are perceived to be more challenging than non-science courses. There appears to be insignificant difference in success between Face to Face and Online modalities.

**SLOCCCD Program Review Data: Successful Course Completion**

Select Department:  
Biology

Course:  
All

Legend:  
■ Face to Face Modality  
■ Online Modality



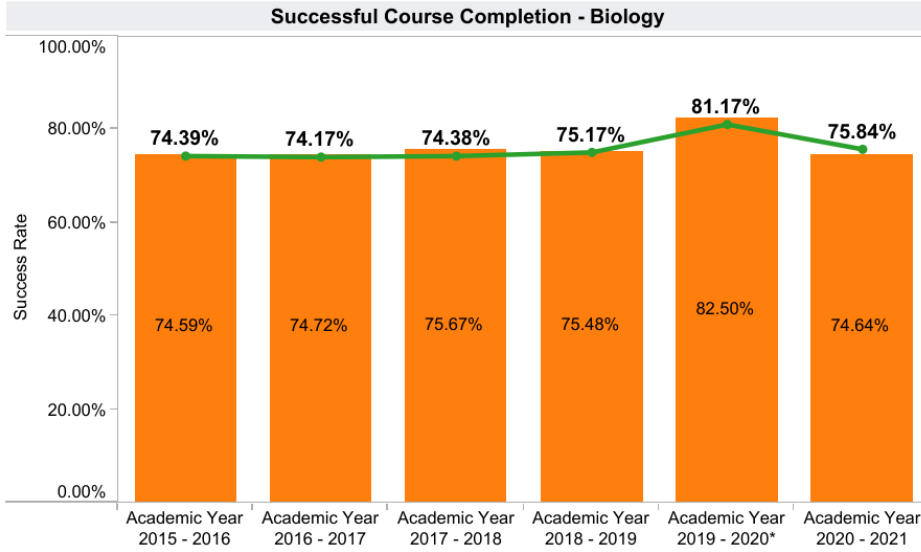
## SLOCCCD Program Review Data: Successful Course Completion

Select Department:  
Biology

TERM  
All

Measure Names  
■ Department Success Rate  
■ Overall College Success Rate

COURSE  
All



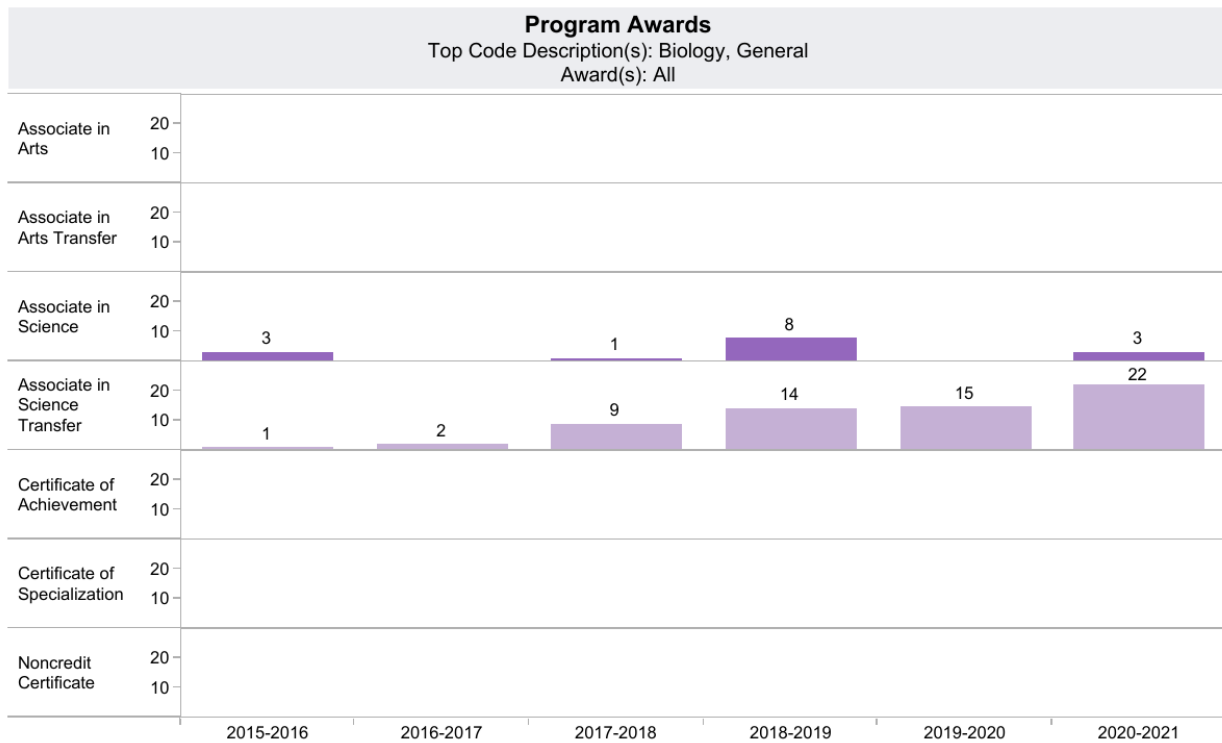
## Degrees and Certificates Awarded

*The number of Transfer Degrees earned has dramatically increased as students are made aware that they qualify for these degrees and that earning a degree might help them enter the advanced college of their choice or earn points toward entry into programs such as nursing. We continue to advise students to apply for and earn degrees in biology.*

### SLOCCCD Program Review Data: Degrees and Certificates Awarded

**Program:**  
Biology, General

**Award Type:**  
All





## Success in Biology courses by ethnicity

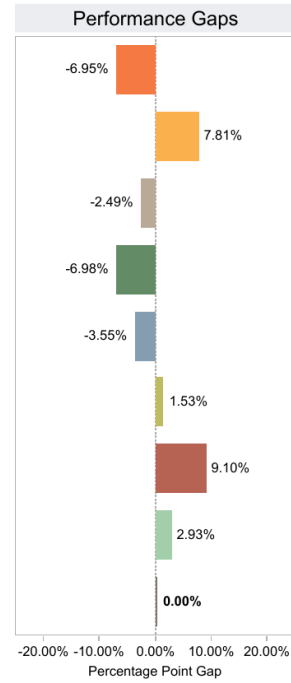
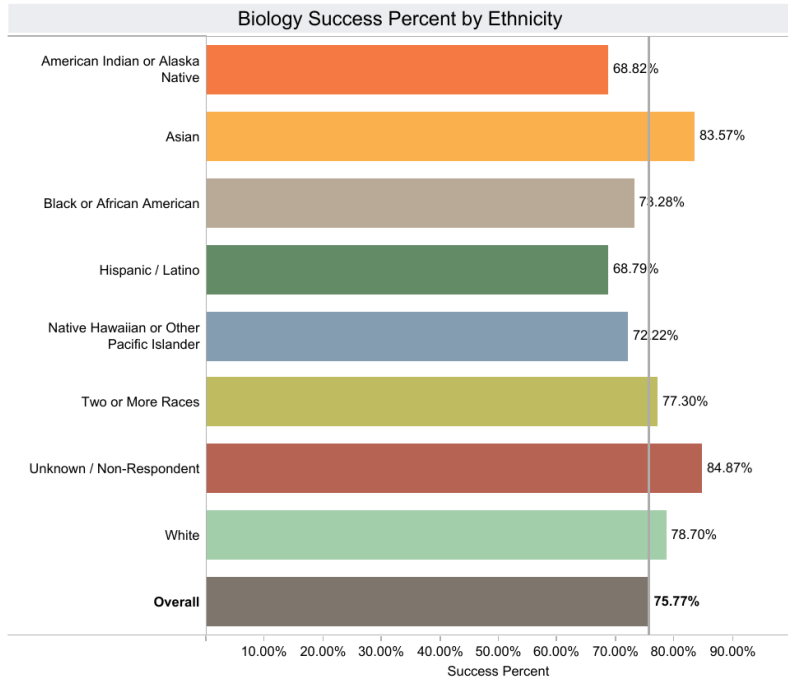
*The chart below shows data over the past 5 years. It is somewhat difficult to fully analyze the data due to the fact that the group with the highest success reports as 'unknown'. Of those who self-identified, Latinx and Native showed the lowest success. Biology faculty are interested in participating 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 was funded and supports 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 the community college. As a Hispanic Serving Institution, we have engaged with students from traditionally underrepresented groups at Cuesta College to recruit and retain them in STEM fields, particularly Biology.*

*Additionally, the Biology Department now offers Marine Biology Lecture and Lab (Bio 222/222L) in Baja California, Mexico. This alternate class location offers 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 language immersion in Mexico. Participants reflect ethnicities or groups that are traditionally underrepresented, including women, Latinas and those of Central and South American descent.*

### Successful Course Completion by Student Subpopulation

**Academic Year:**  
 All
   
**Department:**  
 Biology
   
**Region:**  
 All
   
**Enroll Status:**  
 All
   
**Dual Enrollment:**  
 All
   
**Prison:**  
 All
   
**Disaggregate By:**  
 Ethnicity



## Program Outcomes Assessment Checklist and Narrative

### CHECKLIST:

- SLO assessment cycle calendar is up to date.
- All courses scheduled for assessment have been assessed in eLumen.
- Program Sustainability Plan progress report completed (if applicable).

### NARRATIVE:

*We have made improvement to exams as a result of assessment of Student Learning Outcomes. One example is including more exams covering less material per exam. This has improved student success on the exams. Labs have also been modified as a result of assessment of Student Learning Outcomes. For EXAMPLE, the purchase of additional models for Anatomy as allowed students to have more access to models while studying for lab exams. This has resulted in improved success. Program Planning /*

### *Forecasting for the Next Academic Year*

#### **PROGRAM DEVELOPMENT**

*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, allied-health and kinesiology. 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 except where that course is a field study or specialized course that requires 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 full-time faculty, effective June 2018 and anticipated August 2023. 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 rooms 2205 and 2606 as additional classroom space. However, we need more lab space and we would like to add facilities on the SLO and/or NCC campus to house a human cadaver.*

*We anticipate moving our lab classes back to face to face instruction. Some of our lecture classes will remain in the online modality.*