Instructional Discipline Template

A. Program Information

Program Mission Statement

Please enter your mission statement here.

The Foothill Biology department seeks to provide students with a foundational understanding of the principles of biology and the process of science to prepare them for careers in health, ecology, education, biotechnology and basic research. As we serve students in three different tracks: biology majors, allied health preparation and general education, we strive to develop scientific literacy in all our students and to empower them by engaging in pedagogical practices that are student-centered and focused on equity. Our equity efforts focus on developing student skills in metacognition and critical thinking that can be applied in the classroom and beyond. By using experiential learning and real-world application of biological concepts in our classes, we aspire to prepare students to achieve their goals as global citizens in their understanding and response to future challenges in medicine, environmental issues, and other related areas.

Program Level Student Learning Outcomes

Please list the program level student learning outcomes.

- The biology department prepares students to engage in the process of science to formulate questions, design experiments to test hypotheses, interpret experimental and observational results to draw conclusions, communicate results both orally and in writing, and critically evaluate the application of the process of science in both the scientific literature and the popular press.
- The biology department prepares students to apply evolutionary theory at the molecular, cellular, organismal and population levels to explain the unity and diversity of living things on Earth.

Note: Historically, the program learning outcomes were intended to evaluate only the degree or certificate granting aspects of the department. Our department will revisit and rewrite our PLOS in the coming year to address all aspects of our department's offerings and measure of student success.

B. FTES - Enrollment Trends

Enrollment Variables and Trends

Enrollment Trends
Science Technology Engineering & Mathematics - Biology-FD

	2016-17	2017-18	2018-19	2019-20	2020-21	5-yr %Inc
Unduplicated Headcount	2,516	2,472	2,326	2,409	2,671	6.2%
Census Enrollment	4,021	4,112	3,642	3,954	4,514	12.3%
Sections	146	143	123	139	153	4.8%
WSCH	9,773	9,915	8,880	9,542	11,087	13.4%
FTES (end of term)	660	669	599	644	749	13.5%
FTEF (end of term)	19.5	19.2	16.9	18.8	20.2	3.7%
Productivity (WSCH/FTEF)	501	518	526	508	548	9.4%

1. In the data table above, what does the FTES data trend indicate?

☑ the data trend shows an increase in FTES

☐ the data trend shows a decrease in FTES

☐ the data trend shows no change and/or is flat in FTES

Discuss the factors that would help the college understand these trends and whether there are tangible reasons for no change/flat, an increase or decrease in the trend.

Our FTES are increasing overall possibly due enrollment in courses that prepare students to enter allied health programs, as these are high demand careers right now. In the 2016-2017 year our FTES was 660 while in 2020-21, the FTES was 749, an overall increase of 13.5 %.

2. Looking at the data trend, has the faculty/staff discussed proposed actions to stabilize/increase FTES?

☑ yes

☐ no

If yes, describe the proposed actions for stabilizing/increasing the FTES.

We will continue to offer courses at a variety of times and days to accommodate the schedules of as many students as possible. We will continue to work on equity oriented pedagogical practices and professional development for full and part-time faculty as well. We also coordinate with the chemistry and physics departments to ensure that our students in common have pathways to efficient completion of their transfer and allied health preparation courses. We just recently created an annual schedule of all our classes to publish on the department website so that students can plan out their year for all of our tracks as the guided pathways only addresses our majors.

C. Sections - Enrollment Trends

1. In the data table above, what does the data trend indicate about the number of sections offered?

☑ the data trend shows an increase in sections

☐ the data trend shows a decrease in sections

☐ the data trend shows no change and/or is flat in sections

If the data trend shows no change/flat or an increase or decrease in sections, explain why the number of sections is flat, increased or decreased.

The first two years of data show relatively little change (146 sections in 2016-2017, 143 sectionsin 2017-2018) ,and there is a dip in the 2018-19 data (123 sections) that was in response to budget cuts. The relatively large increase in 2020-21 (153 sections) is probably due to the increase in online sections offered during the pandemic. Online courses eliminate the limits in the number of sections offered because we are not limited by physical class spaces, particularly for labs. We expect that this number will go back down as many transfer institutions and allied health programs have indicated that they will NOT accept online labs in the future.

If the data indicates an increase in sections with a decrease in FTES, explain why the number of sections increased while FTES decreased.

Over the 5 year period, both FTES and sections offered increased.

D. Productivity - Enrollment Trends

1. In the data table above, what does the data trend indicate about the productivity number?

☑ the data trend shows the productivity number increased

☐ the data trend shows the productivity number decreased

☐ the data trend shows no change and/or flat in the productivity number

If the data trend shows no change/flat or an increase or decrease in productivity, explain why the productivity is flat, increased or decreased.

The productivity number has increased over 5 years, from 501 in 2016-2017 to 548 in 2020-2021, again with a dip in the 2018-19 data that was in response to budget cuts and thus, fewer sections being offered. The significant increase in productivity in 2020-2021 is again probably associated with the entirely online nature of course offerings due to the pandemic.

2. Does the data trend suggest changes are necessary to improve productivity?

☐ yes

☑ no

If yes, describe the proposed actions for stabilizing/increasing the productivity number.

Our productivity has increased by 9.4% from 501-548 over the 5 year period.

E. Enrollment by Student Demographics

Enrollment Distribution

Enr Distribution by Student Demographics
Science Technology Engineering & Mathematics - Biology-FD

by Gender

	2016-17		2017-18		2018-19		2019-20		2020-21	
	Enr	Percent	Enr	Percent	Enr	Percent	Enr	Percent	Enr	Percent
Female	2,701	67%	2,787	68%	2,458	67%	2,724	69%	3,291	73%
Male	1,298	32%	1,304	32%	1,162	32%	1,205	30%	1,198	27%
Non-Binary	0	0%	0	0%	0	0%	6	0%	1	0%
Unknown	22	1%	21	1%	22	1%	19	0%	24	1%
Total	4,021	100%	4,112	100%	3,642	100%	3,954	100%	4,514	100%

by Ethnicity

	2016-17		2017-18		2018-19		2019-20		2020-21	
	Enr	Percent	Enr	Percent	Enr	Percent	Enr	Percent	Enr	Percent
African American	130	3%	136	3%	135	4%	143	4%	196	4%
Asian	1,299	32%	1,374	33%	1,304	36%	1,332	34%	1,419	31%
Decline to State/Unknown	140	3%	53	1%	37	1%	64	2%	51	1%
Filipinx	368	9%	390	9%	371	10%	388	10%	425	9%
Latinx	1,009	25%	1,066	26%	943	26%	1,115	28%	1,323	29%
Native American	17	0%	16	0%	15	0%	10	0%	18	0%
Pacific Islander	53	1%	33	1%	28	1%	42	1%	61	1%
White	1,005	25%	1,044	25%	809	22%	860	22%	1,021	23%
Total	4,021	100%	4,112	100%	3,642	100%	3,954	100%	4,514	100%

a. Enrollment by Gender

The following questions concern enrollment distribution by gender.

1. In the data table above, what does the data trend indicate about program enrollment by gender?

Females

☑ the data trend shows an increase in the female enrollment rates

☐ the data trend shows a decrease in the female enrollment rates

☐ the data trend shows no change and/or is flat in the female enrollment rates

Males

- [ ] the data trend shows an increase in the male enrollment rates
- [x] the data trend shows a decrease in the male enrollment rates
- [ ] the data trend shows no change and/or is flat in the male enrollment rates

Non-Binary

- [ ] the data trend shows an increase in the non-binary enrollment rates
- [ ] the data trend shows a decrease in the non-binary enrollment rates
- [x] the data trend shows no change and/or is flat in the non-binary enrollment rates

If the data trend shows no change/flat, an increase or decrease in male, female, or non-binary enrollment, explain why the enrollment rates is flat, increased, or decreased.

Both female and male enrollment rates remained fairly stable for the first four years, ranging between 67% and 69% (females) and between 30% and 32% (males). There was a increase in female enrollment in 2020-2021. During the 2020-2021 academic year, female enrollments (percent and total number) increased by 4% with a consequent decrease in the average male enrollment rates. This may again be due to the exclusively online offerings during the height of the pandemic that opened opportunities for women who would otherwise be unable to enroll for in-person classes due to other responsibilities such as childcare and family care giving. There have been so few non-binary students, we cannot comment on a trend.

2. Does your program differ in the percentage of males to females, in this most recent year, compared to the College? (College 2020-21 = 52% Female, 46% Male)

- [x] yes
- [ ] no

If the data indicates a lack of gender parity in your program as compared to the college percentages, what is the source of that disparity and what proposed/planned actions is the program taking to achieve parity?

In 2020-21 73% of our students were female and 27% were male, so our numbers are very different relative to the College rates. This may be due to the higher number of women that are attracted to the allied health programs. However, the gender enrollment disparities are reflective of nationwide trends. For example, nationwide 68% of biology associates degree recipients and 62% of biology bachelors degree recipients are women (source: https://ncses.nsf.gov/pubs/nsb20197/demographic-attributes-of-s-e-degree-recipients). This is reflective of an longstanding and ongoing trend of more women represented in the life sciences at the undergraduate level. We are unsure how to approach attracting more male students into our programs, but will reflect upon this in the coming year.

Data Table for Enrollment by Gender of Declared Majors

https://foothill.edu/programreview/prg-rev-docs/majors-by-gender-10.25.21.pdf

Click the link to view Enrollment by Gender of Declared Majors data table and respond to the questions below.

3. In the data table above, what does the data trend indicate about enrollment (headcount) by gender of declared majors in the program?

Females

- [ ] the data trend shows an increase in the female enrollment of the declared major
- [ ] the data trend shows a decrease in the female enrollment of the declared major
- [x] the data trend shows no change and/or is flat in the female enrollment of the declared major

Males

- [ ] the data trend shows an increase in the male enrollment of the declared major
- [x] the data trend shows a decrease in the male enrollment of the declared major
- [ ] the data trend shows no change and/or is flat in the male enrollment of the declared major

Non-Binary

- [ ] the data trend shows an increase in the non-binary enrollment rates
- [ ] the data trend shows a decrease in the non-binary enrollment rates
- [x] the data trend shows no change and/or is flat in the non-binary enrollment rates

b. Enrollment by Ethnicity

The following questions concern enrollment distribution by ethnicity.

1. In the data table above, what do the data trends indicate about program enrollment by ethnicity?

African American

- [x] the data trend shows an increase in the African Americans enrollment rates
- [ ] the data trend shows a decrease in the African Americans enrollment rates
- [ ] the data trend shows no change and/or is flat in the African Americans enrollment rates

Asian

- [ ] the data trend shows an increase in the Asian enrollment rates
- [x] the data trend shows a decrease in the Asian enrollment rates
- [ ] the data trend shows no change and/or is flat in the Asian enrollment rates

Filipinx

- [ ] the data trend shows an increase in the Filipinx enrollment rates
- [x] the data trend shows a decrease in the Filipinx enrollment rates
- [ ] the data trend shows no change and/or is flat in the Filipinx enrollment rates

Latinx

- [x] the data trend shows an increase in the Latinx enrollment rates
- [ ] the data trend shows a decrease in the Latinx enrollment rates
- [ ] the data trend shows no change and/or is flat in the Latinx enrollment rates

Native American

- [ ] the data trend shows an increase in the Native American enrollment rates
- [ ] the data trend shows a decrease in the Native American enrollment rates
- [x] the data trend shows no change and/or is flat in the Native American enrollment rates

Pacific Islander

- [ ] the data trend shows an increase in the Pacific Islander enrollment rates
- [ ] the data trend shows a decrease in the Pacific Islander enrollment rates
- [x] the data trend shows no change and/or is flat in the Pacific Islander enrollment rates

White

- [ ] the data trend shows an increase in the White enrollment rates
- [x] the data trend shows a decrease in the White enrollment rates
- [ ] the data trend shows no change and/or is flat in the White enrollment rates

Decline to State

- [ ] the data trend shows an increase in the Decline to State enrollment rates
- [ ] the data trend shows a decrease in the Decline to State enrollment rates
- [x] the data trend shows no change and/or is flat in the Decline to State enrollment rates

2. Does your program differ in enrollment distribution among ethnic groups, in this most recent year, compared to the College enrollment by ethnic group? (College 2020-21 = 5% African American, 28% Asian, 5% Filipinx, 28% Latinx, 1% Native American, 1% Pacific Islander, 29% White, 4% Decline to State)

- [x] yes
- [ ] no

If yes, looking at the ethnic groups above, explain changes identified over the past five years for each ethnic group (address each ethnic group by bullet point).

Compared to the college rates, we see the following:

- 1% lower in African American. The overall trend is a 1% increase between 2016-2021 in our department.
- 1% lower Native American. There are not enough enrolled Native American Students in biology to really comment on this.
- 3% higher in Asian, This may be reflective of demographic differences in affinities towards certain career paths, but we do not have the data to support that assertion.
- 4% higher in Filipnx, There may be higher enrollment due to the numbers of Filipino students interested in allied health careers,
- 1% higher in Latinx, While the 1% difference is not enough to really comment on, the overall trend has been a 4% increase in Latinx students enrolled over the 5 year period. This may be due to interest in allied health careers, but there are no specific data to support this.
- 6% lower in white students.
- 3% lower in Decline to State.

3. Do the data trends suggest programmatic actions are necessary to address disparities in enrollment by ethnicity, including low enrollment within a particular group?

☑ yes

☐ no

If yes, describe the proposed actions for addressing disparities in enrollment by ethnic group within the program.

We need to increase outreach to African American students. Possible solutions include working with Umoja, working with institutional research and marketing. Increasing the diversity of our faculty and continued offering of our Biology 81 course: "Learners engaged in advocating for diversity in science"

F. Student Course Success

Course Success Rates by Unit

Course Success
Science Technology Engineering & Mathematics - Biology-FD

	2016-17		2017-18		2018-19		2019-20		2020-21	
	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
Success	3,307	82%	3,494	85%	3,039	83%	3,425	87%	3,874	86%
Non Success	373	9%	369	9%	308	8%	254	6%	285	6%
Withdrew	340	8%	249	6%	295	8%	274	7%	355	8%
Total	4,020	100%	4,112	100%	3,642	100%	3,953	100%	4,514	100%

Course Success by Race/Ethnicity
Science Technology Engineering & Mathematics - Biology-FD

Course Success for African American, Latinx, and Filipinx Students

	2016-17		2017-18		2018-19		2019-20		2020-21	
	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
Success	1,149	76%	1,256	79%	1,128	78%	1,355	82%	1,591	82%
Non Success	192	13%	217	14%	171	12%	148	9%	168	9%
Withdrew	166	11%	119	7%	150	10%	142	9%	185	10%
Total	1,507	100%	1,592	100%	1,449	100%	1,645	100%	1,944	100%

Course Success for Asian, Native American, Pacific Islander, White, and Decline to State Students

	2016-17		2017-18		2018-19		2019-20		2020-21	
	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
Success	2,158	86%	2,238	89%	1,911	87%	2,070	90%	2,283	89%
Non Success	181	7%	152	6%	137	6%	106	5%	117	5%
Withdrew	174	7%	130	5%	145	7%	132	6%	170	7%
Total	2,513	100%	2,520	100%	2,193	100%	2,308	100%	2,570	100%

Some courses may continue to be listed but no longer have data due to renumbering or because the course was not offered in the past five years.

a. Student Course Success

1. In the data table above, what does the data trend indicate about overall course success?

- [x] the data trend shows an increase in the students' course success percentage
- [ ] the data trend shows a decrease in the students' course success percentage
- [ ] the data trend shows no change and/or is flat in the students' course success percentage

If the data trend shows an increase, decrease, or no change and/or is flat in students' course success percentage, explain what programmatic factors led to such a trend.

The data show an slight overall increase in overall student success. The Biology faculty are continuously engaged in developing equitable learning environments and opportunities in our classrooms. For example, last year we had a series of workshops with Dr. Bryan Dewsbury, who focuses on the social context of teaching and learning, especially in the sciences.

2. Do the data suggest changes are necessary to improve student course success?

- [ ] yes
- [x] no

If yes, describe the proposed actions for stabilizing/increasing the student's course success percentages.

The Biology department is actively engaged in improving the learning outcomes and success rates of our students through innovative pedagogical practices and we continue to seek professional development opportunities that will help us to increase student success.

b. Student Course Success by Student Groups

1. In the data table above, what is the observed trend for course success rates for African American, Filipinx, and Latinx student groups?

- [x] the data trend shows an increase in the course success percentage

☐ the data trend shows a decrease in the course success percentage

☐ the data trend shows no change and/or is flat in the course success percentage

2. In the data table above, what is the observed trend for course success rates for Asian, Native American, Pacific Islander, White, and Decline to State student groups?

☐ the data trend shows an increase in the course success percentage

☐ the data trend shows a decrease in the course success percentage

☑ the data trend shows no change and/or is flat in the course success percentage

3. In the data table above, is there a course success gap between African-American, Latinx, Filipinx student groups and Asian, Native American, Pacific Islander, White, Decline to State student groups?

☑ yes

☐ no

If the data trend shows an increase, decrease, or no change/flat in course success gap, explain why the course success gap is flat, increased, or decreased.

There is a gap between these two broad groups of students, but the five year trend shows gains in the former group (76% in 2016-2017 compared to 82% in the 2020-2021 group). Given this trend in the data, we want to continue current practices that we hope are contributing to this promising trend including but not limited to:

- our centering of equity in the curriculum,
- our hiring practices that actively encourage candidates to demonstrate experience in equitable teaching strategies

4. Does the data suggest that changes are necessary to decrease student course success gap between African-American, Latinx, Filipinx student groups and Asian, Native American, Pacific Islander, White, and Decline to State student groups?

☑ yes

☐ no

If yes, what actions are program faculty and staff engaged in to decrease the course success gap between African-American, Latinx, and Filipinx student groups and Asian, Native American, Pacific Islander, White, and Decline to State student groups?

Again, our department is actively engaged, both as individuals and as a department on improving our student success rates through research supported pedagogy that increases success rates in non-traditional STEM groups (e.g. https://www.pnas.org/doi/10.1073/pnas.1916903117). We have also introduced a new course-Biol 81: LEARNERS ENGAGED IN ADVOCATING FOR DIVERSITY IN SCIENCE to help increase an understanding of the need for diversity in science.

G. Student Course Success by Demographics

a. Student Course Success by Gender

The following questions concern student success rates by gender.

Course Success Rates by Group

Success Rates by Gender
Science Technology Engineering & Mathematics - Biology-FD

	2020-21							
	Success		Non Success		Withdrew		Total	
	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
Female	2,812	85%	211	6%	268	8%	3,291	100%
Male	1,040	87%	73	6%	85	7%	1,198	100%
Non-Binary	1	100%	0	0%	0	0%	1	100%
Unknown	21	88%	1	4%	2	8%	24	100%
All	3,874	86%	285	6%	355	8%	4,514	100%

All	3,874	86%	285	6%	355	8%	4,514	100%

2019-20

	Success		Non Success		Withdrew		Total	
	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
Female	2,381	87%	170	6%	172	6%	2,723	100%
Male	1,021	85%	82	7%	102	8%	1,205	100%
Non-Binary	4	67%	2	33%	0	0%	6	100%
Unknown	19	100%	0	0%	0	0%	19	100%
All	3,425	87%	254	6%	274	7%	3,953	100%

2018-19

	Success		Non Success		Withdrew		Total	
	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
Female	2,047	83%	206	8%	205	8%	2,458	100%
Male	972	84%	102	9%	88	8%	1,162	100%
Non-Binary	0	N/A	0	N/A	0	N/A	0	100%
Unknown	20	91%	0	0%	2	9%	22	100%
All	3,039	83%	308	8%	295	8%	3,642	100%

2017-18

	Success		Non Success		Withdrew		Total	
	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
Female	2,383	86%	234	8%	170	6%	2,787	100%
Male	1,092	84%	134	10%	78	6%	1,304	100%
Non-Binary	0	N/A	0	N/A	0	N/A	0	100%
Unknown	19	90%	1	5%	1	5%	21	100%
All	3,494	85%	369	9%	249	6%	4,112	100%

2016-17

	Success		Non Success		Withdrew		Total	
	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
Female	2,252	83%	223	8%	225	8%	2,700	100%
Male	1,034	80%	150	12%	114	9%	1,298	100%
Non-Binary	0	N/A	0	N/A	0	N/A	0	100%
Unknown	21	95%	0	0%	1	5%	22	100%
All	3,307	82%	373	9%	340	8%	4,020	100%

Success Rates by Ethnicity

Science Technology Engineering & Mathematics - Biology-FD

2020-21

	Success		Non Success		Withdrew		Total	
	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
African American	161	82%	17	9%	18	9%	196	100%
Asian	1,276	90%	58	4%	85	6%	1,419	100%
Decline to State/Unknown	42	82%	6	12%	3	6%	51	100%
Filipinx	370	87%	23	5%	32	8%	425	100%
Latinx	1,060	80%	128	10%	135	10%	1,323	100%
Native American	13	72%	3	17%	2	11%	18	100%
Pacific Islander	48	79%	9	15%	4	7%	61	100%
White	904	89%	41	4%	76	7%	1,021	100%
All	3,874	86%	285	6%	355	8%	4,514	100%

2019-20

	Success		Non Success		Withdrew		Total	
	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
African American	109	76%	18	13%	16	11%	143	100%
Asian	1,210	91%	50	4%	72	5%	1,332	100%
Decline to State/Unknown	59	92%	1	2%	4	6%	64	100%
Filipinx	347	89%	14	4%	27	7%	388	100%
Latinx	899	81%	116	10%	99	9%	1,114	100%
Native American	9	90%	1	10%	0	0%	10	100%
Pacific Islander	31	74%	8	19%	3	7%	42	100%
White	761	88%	46	5%	53	6%	860	100%
All	3,425	87%	254	6%	274	7%	3,953	100%

2018-19

	Success		Non Success		Withdrew		Total	
	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
African American	95	70%	16	12%	24	18%	135	100%
Asian	1,144	88%	79	6%	81	6%	1,304	100%
Decline to State/Unknown	29	78%	6	16%	2	5%	37	100%
Filipinx	317	85%	31	8%	23	6%	371	100%
Latinx	716	76%	124	13%	103	11%	943	100%
Native American	11	73%	2	13%	2	13%	15	100%
Pacific Islander	22	79%	2	7%	4	14%	28	100%
White	705	87%	48	6%	56	7%	809	100%
All	3,039	83%	308	8%	295	8%	3,642	100%

2017-18

	Success		Non Success		2017-18 Withdrew		Total	
	Success		Non Success		Withdrew		Total	
	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
African American	104	76%	24	18%	8	6%	136	100%
Asian	1,225	89%	70	5%	79	6%	1,374	100%
Decline to State/Unknown	49	92%	3	6%	1	2%	53	100%
Filipinx	325	83%	46	12%	19	5%	390	100%
Latinx	827	78%	147	14%	92	9%	1,066	100%
Native American	15	94%	1	6%	0	0%	16	100%
Pacific Islander	26	79%	4	12%	3	9%	33	100%
White	923	88%	74	7%	47	5%	1,044	100%
All	3,494	85%	369	9%	249	6%	4,112	100%

2016-17

	Success		Non Success		Withdrew		Total	
	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
African American	97	75%	24	18%	9	7%	130	100%
Asian	1,120	86%	91	7%	88	7%	1,299	100%
Decline to State/Unknown	120	86%	14	10%	6	4%	140	100%
Filipinx	300	82%	40	11%	28	8%	368	100%
Latinx	752	75%	128	13%	129	13%	1,009	100%
Native American	13	76%	3	18%	1	6%	17	100%
Pacific Islander	44	83%	7	13%	2	4%	53	100%
White	861	86%	66	7%	77	8%	1,004	100%
All	3,307	82%	373	9%	340	8%	4,020	100%

Some courses may continue to be listed but no longer have data due to renumbering or because the course was not offered in the past five years.

1. In the data table above, what does the data indicate about program course success by gender?

Females

- [x] the data trend shows an increase in the female course success rates
- [ ] the data trend shows a decrease in the female course success rates
- [ ] the data trend shows no change and/or is flat in the female course success rates

Males

- [x] the data trend shows an increase in the male course success rates
- [ ] the data trend shows a decrease in the male course success rates
- [ ] the data trend shows no change and/or is flat in the male course success rates

Non-Binary

- [ ] the data trend shows an increase in the non-binary course success rates
- [ ] the data trend shows a decrease in the non-binary course success rates
- [x] the data trend shows no change and/or is flat in the non-binary course success rates

If the data trend shows an increase, decrease, or no change/flat in the male, female, or non-binary student course success percentages, explain why the percentage is flat, increased, or decreased.

Males student success rates are improving, though if we refer back to enrollment trends, male enrollments have decreased, so there may be a correlation between these two statistics. There are not enough non-binary students to say anything meaningful.

2. Do the data suggest changes are necessary to improve female, male, or non-binary student course success percentage rates?

- [ ] yes
- [x] no

If yes, describe proposed actions to stabilize/increase the course success rates for male, female, or non-binary.

There has been an overall increase in the success rates of both female and male students.

b. Student Course Success by Ethnicity

These questions concern the course success rates of students by ethnicity.

1. In the data table above, what does the data trend indicate about program student course success by ethnicity?

African Americans

- [x] the data trend shows an increase in the African Americans course success rates
- [ ] the data trend shows a decrease in the African Americans course success rates
- [ ] the data trend shows no change and/or is flat in the African Americans course success rates

Asian

- [x] the data trend shows an increase in the Asian course success rates
- [ ] the data trend shows a decrease in the Asian course success rates
- [ ] the data trend shows no change and/or is flat in the Asian course success rates

Filipinx

- [x] the data trend shows an increase in the Filipinx course success rates
- [ ] the data trend shows a decrease in the Filipinx course success rates
- [ ] the data trend shows no change and/or is flat in the Filipinx course success rates

Latinx

- [x] the data trend shows an increase in the Latinx course success rates
- [ ] the data trend shows a decrease in the Latinx course success rates
- [ ] the data trend shows no change and/or is flat in the Latinx course success rates

Native American

- [x] the data trend shows an increase in the Native American course success rates
- [ ] the data trend shows a decrease in the Native American course success rates
- [ ] the data trend shows no change and/or is flat in the Native American course success rates

Pacific Islander

- [x] the data trend shows an increase in the Pacific Islander course success rates
- [ ] the data trend shows a decrease in the Pacific Islander course success rates
- [ ] the data trend shows no change and/or is flat in the Pacific Islander course success rates

White

- [x] the data trend shows an increase in the White course success rates
- [ ] the data trend shows a decrease in the White course success rates
- [ ] the data trend shows no change and/or is flat in the White course success rates

Decline to State

- [ ] the data trend shows an increase in the Decline to State course success rates
- [x] the data trend shows a decrease in the Decline to State course success rates
- [ ] the data trend shows no change and/or is flat in the Decline to State course success rates

If the data trend shows a decrease in any of the student ethnic groups' course success rates, explain why the percentage decreased for each (address each ethnic group by bullet point).

The only demographic group that shows a decrease in 5-year success rates is the "Decline to State" group. As this trend is also seen in the enrollment rates (with a decrease in students in this category), this could be related to more students identifying into the other existing ethnic groups that are not listed in the demographic options.

2. Do the data indicate a gap in course success for any of the ethnic groups as compared to other groups?

- [x] yes
- [ ] no

If yes, describe the reasons for the gap in course success.

There continues to be a gap in success rates between African American, Pacific Islander and Latinx students and the other ethnic groups.

3. Do the data suggest that changes are necessary to improve program course success equality?

- [x] Yes
- [ ] No

If yes, describe the proposed actions for stabilizing/improving the course success by ethnicity.

There continues to be a gap in success rates between African American, Pacific Islander and Latinx students and the other ethnic groups. That being said, there has also been continuous overall increase in success rates in these groups and subsequent decrease in the overall gap. Part of the increases in success are possibly related to changes in faculty pedagogical techniques, as well as campus-level access to support services including, but not limited to the TLC and STEM center, EOPS program, food bank and psychological services. The biology faculty actively encourage our students to get help not only from us, but also from the services on campus.

Use this opportunity to provide feedback on the template or address a topic that was not previously discussed.

N/A

Self-Study Checklist

Writers can use this final checklist for ensuring quality control before hitting the final submit button.

- [x] Attended the Writer Orientation/Training in November
- [x] Responses are supported by the data
- [x] Engaged in discussion with IR Coach
- [x] The Self-Study Report was written collaboratively with other program stakeholders
- [x] The Self-Study Report was proofread by a collaborator

This form is completed and ready for acceptance.